THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

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Plowing up Hidden Treasure.

IT has been said that "we may judge of the skill of a farmer by the number of sovereigns he pockets by the end of the year;" and as the whole object of the business is to reap its reward, the inquiry very naturally arises, "What is the secret why some farmers with the same amount of capital and labor, gain more than others, and why some work hard all their lives without seeming to turn up with their shares but little that is valuable?"

The answer is obvious—all do not know where the concealed treasures lie, which the more fortunate have discovered,—and having discovered, immediately commence throwing out freely from the bottom of their rich furrows. It is surprising what mines of wealth lie within reach of some who are toiling laboriously for what these mines would at once afford them. We have known a very industrious man draw stable manure from a distance of several miles, to apply to the surface of land, that contained just twelve inches below, powerful means of fertility. The manuring was indeed highly profitable, but a great mistake was committed by neglecting the other means. Another farmer in one of the best counties of Western New-York, told us years since, that so valuable was the subsoil of his land, that he would be glad to have half a foot of the top soil of his whole five hundred acres at once removed and taken away. But his knowledge has slumbered; for to this day, neither subsoil nor trench plow has entered beyond the usual depth.

Accidental occurrences often teach valuable facts, of which the successful farmer at once avails himself. During one of those years when the wheat-crop was nearly destroyed by adverse causes, a strip of land was observed through a neighbor's field, bearing a fine dense crop of grain, while the rest did not average five bushels per acre. On inquiry, it was found that the subsoil, in cutting a ditch, had been spread, merely for convenience over the ground on either side, and thus imparted to it this extraordinary fertility. In another case, by mixing up by means of deep furrows, the marly subsoil with the light and spongy top soil of a piece of low land, an acquaintance succeeded in expelling at once the worthless rush and sedge grasses, and restoring a fine growth of clover. A casual observation in cutting a trench had pointed out this great improvement.

We do not mean to assert that the subsoil always contains, to so great an extent, the elements of fertility. When it approaches barrenness, caution is of course needed in gradually deeping the soil, accompanied with manuring. But this condition is more frequently the exception than the rule. Fifty years of tillage, as farming is too often conducted, rather impoverishes, than adds to mineral manures. The soil was not originally deposited so as to accommodate the surface-stratum of fertility, to the exact depth penetrated by the modern cast-iron plow. The same ingredients essentially, often extend to many feet in depth; and after cultivation has lessened or removed them, it is usually much easier to bring up from below a new supply of the carbonate, sulphate, and phosphate of lime, than to apply them artificially in sufficient abundance, although both may be advantageously resorted to. A very simple experiment will show, throughout a large portion of the country, a difference between the top and under soil. Let a portion of any long-worn soil be dropped into diluted muriatic acid, and no action will be visible; a portion taken a few inches lower, by its effervescence, will usually indicate carbonate of lime in considerable quantity. So much for a single ingredient out of several.

We have just witnessed a most interesting example of the results of deep plowing. A field of land, reputed almost to a proverb for the hard cropping to which it had been subjected for nearly half a century, recently changed hands, and skim-culture immediately gave way to a different mode of treatment. By means of three combined yoke of oxen, attached to that magnificent implement, the Michigan subsoil plow of largest size, the earth was turned up in the most beautiful manner, to an average depth of one foot, actual measurement, and the light of the sun was let in where it never shone before. It was interesting to observe the surface of fresh earth which afterwards covered the field. Mixed with the marly subsoil, were large portions of decayed leaves, black mould, and crumbled roots, which had slumbered there in security for half an age, while the scratching system had been so long in existence but a few inches above; and the whole presented very much the appearance of the fresh or virgin soil of newly cleared land.

It is not however, deep plowing alone that brings hidden treasure into use. There are many, many instances where the sharp-sighted and active farmer will avail himself of much that is highly valuable, but usually unobserved. An interesting example of this is furnished by the practice of a distinguished scientific and successful farmer of western New-York. A few years since, when he first took possession of his farm, he found almost

every where, stores of neglected wealth. The butcher had thrown out on his back lot, vast quantities of bones. These he was glad to give away in order to get rid of them. The neighboring plaster mill soon reduced them to a highly fertilizing powder. Now, in the same neighborhood, waste bones are eagerly sought by all. Again, it was customary to draw out and pile up in huge useless heaps, the refuse ashes of the soap-boilers and potash factories. This same observing farmer obtained permission to remove these heaps to his fields. His neighbors witnessed his success, and as a consequence, he cannot now get leached ashes without paying a good price for them.

Again,—he discovered that much of the fertility of his farm was lost by the presence of a superabundance of water in the soil. He adopted a thorough system of tile-draining, laying his drains scientifically with an engineer's levelling instrument. He can now plow his ground sooner in spring, and secure earlier sowing; the plow runs more easily through the fine crumbling earth than in the wet adhesive mass as formerly; the roots penetrate deeper, drouth does not affect the porous bed of earth, the cold water of the subsoil does not chill the early plant; in short growth commences sooner, and advances without interruption until it reaches full and perfect maturity. The result of this successful practice is, that an imported tile-machine of the best construction, has been scarcely able to supply the general demand. Who can estimate the benefit thus resulting from the enlightened example of a single individual.

Agriculture—A Science.

Progress is the almost universal law of the present age. We hear about a higher law than the commonly received one in government,—of a more perfect organization of society,—of a more refined literature—of improved facilities for commerce, travel, and the interchange of thought,—of startling discoveries in science and the mechanic arts—of surprising inventions of machinery, and so on to an unlimited extent. Yet whenever a new principle has been broached, the timid have refused to recognise it because it was *new*, and empirics have seized eagerly upon it, and by false induction, drawn absurd conclusions; while those who would promote sound knowledge, have been obliged to contend with both these classes, as well as to enforce and illustrate the nature and bearing of the idea they aim to bring into notice and to make useful.

So is it now, when the importance of elevating Agriculture to the rank of a science, and making its practice a rational employment and a means of culture, is openly advocated. All seem well content that there should be improvement in other pursuits; but when the hand of the reformer is laid on the farms which private industry has tilled, some rise up in defence of the old paths, as if their household gods had been insulted and dishonored. Without spending a thought on a class of persons who ridicule the very idea of improvement in Agriculture, we propose to answer an honest objection, and to endeavor to remove a prejudice against the introduction of scientific principles into practical Agriculture.

"The art of making science inaccessible," which has so long been taught in the schools, must, in this progressive and thinking age, give way to a system of a more popular and practical nature, retaining all that is truly valuable in the *old*, so modified and brought down to common apprehension, as to be serviceable to those who most need its benefit.

All knowledge is derived from first principles, and these, in natural science, become evident only after a series of careful experiments, and long continued observation. It is the ultimate object of physical science to discover these laws, and by inductive reasoning to generalise them and draw from them logical conclusions. All that exceeds this, goes beyond the proper province of physical science, and belongs to the sphere of speculation. No mind is sufficiently comprehensive and powerful to grasp this universe as a whole, and by an analysis of all its parts, to exhibit its perfect harmony, the mutual relation of each integral part, and all the laws of nature. The phenomena of nature, are alone given to us, and it is by observing the connection between these and certain results, that first principles are established, and advance made. In works on the various branches of science, we find only the record of the observations of others and the conclusions they have drawn from them, upon the truth or falsity of which future observation must again decide. It would be erroneous, however, to infer that there can be nothing fixed and determinate in physical science; for there is a wonderful simplicity and completeness in the laws of nature, apparent to every mind. Phenomena, resulting from the law of gravitation, and those of astronomy, were once the objects of mystic speculation, and gave rise to a thousand dogmas which we have received as the melancholy inheritance of the past. Mind has ever been obliged to wade through error in its search for truth; but once discovered, like the diamond in the mine, it shines by its own native light, bringing irresistible conviction of its worth.

Natural science is, then, emphatically a progressive one, always giving scope to the perceptive and logical powers,—always exciting curiosity, and repaying investigation with the most certain and satisfying knowledge. The infallibility which attaches to every truth brought to light by actual and repeated experiment, makes definite and undeniable every step of progress, and furnishes unmistakable data for farther research. This brings within the grasp of every inquiring mind, all the means necessary to the perfect comprehension and successful application of the results of investigation. Every person who has an eye to observe, a hand to work, and a head to think, may, if he choose, be a student of nature,—an experimenter in the great laboratory of the world, and a demonstrator of practical science. Nature is a text-book, alike open to all, and he whose area of observation is confined to the limits of his own garden, may discover facts as important as one who traverses the earth in search of the strange and inexplicable. There cannot be a stronger incentive to action, than the fact that so much which is beautiful and instructive lies half concealed and half revealed in the bosom of the earth—that the means of filling both the purse and the brain are within the reach of all.

It is, in this country, comparatively a short time since Agriculture has been ranked among the branches of natural science, and it has not the completeness which be-

longs to those of longer standing, and upon which more elaborate attention has been bestowed. Nor can a perfect system of Agriculture be expected. There is such a variety in soils, so much that is variable and conditional in climate and seasons, that it is difficult to determine whether apparent results are referable to peculiar circumstances or invariable laws. So long as the earth continues her revolutions, will there be changes in the practice of cultivation, and the capacity of the soil will never be so fully known that no undeveloped power will be latent in it; yet, that there are certain FIXED PRINCIPLES in Agriculture, alike operative under all circumstances, and in all climates, no well informed mind can doubt. Now so far as accurate observation has established these *principles*, so far is Agriculture a SCIENCE—i.e., so much is known, on which all may safely rely, a fact to which they may refer for authority; and so fast as farther experiment reveals other determinate laws, just so fast will the science progress.

The community has long felt the need of some means of ascertaining definitely what is *principle*, and what mere conjecture and hypothesis, in all that is written on improved systems of Agriculture. If profound and practical knowledge is ever to take the place of empiricism, it must be by fundamental instruction in the first rudiments of science,—as we have defined the term,—and who can impart this instruction, if not those who rank among our scientific men, and add to minute and long observation, high talent and ripe culture? It is to such men, we must look for authority, and by them be guided in investigation; and it will be no little advance in agriculture, to be well assured that the true foundation is laid, on which every intelligent farmer must build for himself.

It is with a view to teach the application of science to practical agriculture, to form a nucleus for inquiring farmers, that the Trustees of the University of Albany have organized a department exclusively for this purpose.

Prof. JOHN P. NORTON will deliver a course of lectures, commencing the second Tuesday of January, comprising "a complete outline of the best system of modern Agriculture," embracing the general structure and growth of plants,—the composition of soils, and how affected by different manures,—the elements of barn-yard, mineral and artificial manures,—an analysis of the products of the soil, showing their properties and value,—the composition of milk, butter, and cheese, and the best method of feeding and fattening animals. That these lectures will be eminently practical, reliable and instructive, the well-earned reputation of Prof. NORTON, is a sufficient guarantee.

Prof. JAMES HALL, of the N. Y. Geological Survey, will deliver a course of lectures, on the bearing of Geology on Agriculture, conveying a fund of information that no one should be without.

Dr. HENRY GOADBY announces a partial course on Entomology, taking up the importance of a knowledge of insects to the agriculturist, the injuries caused by them to crops and fruits, &c. Prof. Goadby has recently closed a course of lectures in this city, and no one who listened to them, can doubt the accuracy of his knowledge, or fail to be pleased with his elegant style.

These lectures are not designed for the advanced scholar or the young student merely, but for the working farmer, and all who wish to inform themselves on these subjects. They are especially adapted to young men, who are engaged in active agricultural pursuits. The clergyman, teacher, lawyer and physician are required to pursue a course of study to fit themselves for the practice of their profession, and why should the profession of Agriculture be entered upon, with no preparation, and with no higher purpose than "to get a living?" A marked distinction is every where made, between a thoroughly read practioner and a quack, and this distinction is now very properly carried into farming. When three months attendance on instruction will give one an insight into the principles of Scientific Agriculture, and furnish data for life-long research, we cannot believe that an ambitious, right-minded young man, will "settle down" to plod in the old beaten track. The narrowest policy would dictate a course the most profitable, in which the greatest income might be secured with the least outlay, and when, to a system of profit and loss are added the laudable ambition of promoting sound, practical knowledge and self-culture, it becomes a privilege and a duty to use all possible means for improvement—to lead a rational and not mechanical life.

We trust that a scheme so admirably adapted to the wants of the public, will not fail for lack of ready support, and that the time is not far distant when our farmers will be as desirous to send their most promising sons to an agricultural school, as they now are to our law and medical schools. [See advertisement.]

Cranberries on Upland.

The question whether cranberries can be grown advantageously on upland, is not, probably, fully settled. A correspondent of the *New-England Farmer*, referring to several articles, says—"the feasibility of growing this fruit on upland, is beyond a doubt; but of the expediency of it, as a matter of profitable culture, I am not fully advised." The *Prairie Farmer* states that it has been tried in that vicinity, and says—"we tried the vines very faithfully, as did others in this region, all with the same, or similar success. Our vines *did grow* for a while, but gradually got tired of it, and gave out by degrees; they never gave us any fruit. They were plainly not at home."

The most encouraging information we have seen in regard to success of cranberries on upland, is in a communication of PAUL HATHAWAY, North-Middleborough, Mass., in the *Ploughman* of Dec. 6th, last. He states that he has an acre of cranberry vines on upland, set out in 1845 and 1846—that they have borne fruit every since they were set out. But he gives no definite statement in regard to quantity of fruit produced. He says he has had a "good supply" for himself and others, and this year "sold a few at two dollars a bushel." He left the vines, after they were set out, to "take their own way," and they have obtained full possession of the ground—some of them having run seven feet. We have no particular description of the soil, and know not whether it is moist or dry. Some writers say they should be manured with bog muck, or peat, every year or two. Let us have more results.

Random Notes on Pears.*

A few observations made during a short visit to some of the eastern gardens, may prove interesting to the fruit-growing readers of this journal.

BLIGHT.—A remarkable fact, and throwing some light (negatively,) on the pear blight, is the entire absence from this disease among the trees in the neighborhood of Boston. It seemed indeed strange to hear such men as the president and ex-president of the world-renowned Horticultural Society there, inquiring for the appearance and symptoms of the blight as of a disaster personally unknown to them, but so universally known and dreaded in Western New-York and in Ohio. Boston and Rochester are not dissimilar in temperature of climate, hence we cannot trace it satisfactorily or wholly to the weather. Nor is rapid growth a necessary cause, for more freely growing trees than the thousands on the grounds of M. P. WILDER, S. WALKER, or C. M. HOVEY, are nowhere to be found. A part of Col. WILDER's grounds consist of reclaimed bog, with an ample addition of improving and fertilizing materials; and the finest pear grounds belonging to President WALKER he stated had been very heavily dressed with yard manure, with additions of ashes and guano, and the whole repeatedly plowed, and repeatedly subsoiled, till mellow and rich in a high degree to a depth of about two feet. The growth of the trees fully corroborated his account. Limited observations at Philadelphia indicated a somewhat similar condition of the trees at that place.

PYRAMIDAL PEARS.—The finest collection, perhaps, in this country, are the 1500 pyramids of HOVEY & Co., at Cambridge, some of them 10 feet high. The pear crop proving this year mostly a failure, but few of them were loaded with fruit; but the beauty of their training, as presented in the long avenues of these trees, could scarcely be surpassed by CAPPE's celebrated trees of Paris. These were mostly, like CAPPE's, on pear roots. Equally handsome specimens were observed on some parts of Col. WILDER's grounds.

NEW PEARS.—Of the newer varieties which have been considerably proved, none appear to be more generally admired than the *Doyenne Boussock*, for size, growth, productiveness, and quality. We have never heard a word against its high character. The *Beurre Langelier* is regarded by HOVEY as the best early winter pear, and is highly esteemed by MANNING, WALKER, and others; while on the other hand, MANNING thinks the Lawrence is decidedly the best, so far as a partial trial will indicate. Col. WILDER finds the *Doyenne gris d'Hiver Nouveau* of good quality, and ripening later than Easter Beurre; the *Howell* large and fine; the *Triomphe de Jodigne*, "good;" *Nouveau Poiteau*, handsome and fine; and *Soldat Laboreur* a beautiful grower, and a fine pear. *Van Mons' Leon le Clerc*, as elsewhere, cracks badly with him, and the *Dix* very badly. Some of the worst looking specimens of cracked pears observed anywhere, were on a tree of the Dix. Has this new and hardy American tree, already reached old age? Or will it die of old age at Dorchester, at the same time it is flourishing in youth and vigor near Rochester? A puzzling fact in relation to cracking, occurred on the grounds of the writer,—a young Doyenne pear on *new ground*, while bearing its first crop, became dotted with black specks precisely like those of leaf blight, on both leaves and fruit at the same time, and the fruit cracked and was worthless. This was some years ago, and has not been repeated. Not far distant, on very similar soil, stood another old Doyenne tree, bearing yearly six to twelve bushels of uniformly fair fruit. This fact is very adverse to the theory of *exhaustion of soil* by trees of long standing.

ROBERT MANNING has found only two of Knight's pears of much value, the *Eyewood* and *Moccas*. The *Monarch*, after a vast amount of pains to get it correct, proves after all, of no great value. *Manning's Elizabeth*, he regards as one of the finest early pears. The *Duchesse d' Orleans* promises to become very valuable. Of Gov. EDWARDS' new sorts, the *Calhoun* proves the best, and the *Dallas* a good fruit; the others not so worthy of notice.

STANDARDS ON QUINCE.—Those sorts which grow freely and endure well on the Quince, as Louise Bonne of Jersey, Angouleme, Glout Morceau, &c., may be set out in orchards and trained standard height. Specimens thus treated, more than twenty years old, bearing usually several bushels a year, were observed in a fine condition in the gardens of S. WALKER and M. P. WILDER. The Langelier and Boussock promise to be good for this purpose.

DOUBLE-WORKED TREES.—S. WALKER strongly doubts the propriety of double-working many of the refractory sorts. He has trees of the Aremberg, Van Mons' Leon le Clerc, and Dix, all double worked, but they succeed but poorly. Their growth is usually slow, and it is some years before they bear much; and the first good crop exhausts nature and the tree commonly perishes after a full effort at bearing. Dearborn's Seedling, when double worked, does well, and it is nearly the only sort that does so. Results may sometimes prove more favorable on other soils and in other places; but these show the necessity of caution in the promiscuous planting of such trees.

INFLUENCE OF LOCALITY.—The difference thus created is often remarkable. Dr. BRINCKLE of Philadelphia showed specimens of the Seckel pear, which would be looked upon by cultivators further north, as of great size; one specimen, which he assured us was by no means the largest he had seen, measured only two lines less than three inches long; and a fine crop of Doyennes in BAXTER's garden, furnished plenty of specimens three inches in breadth and in height. The Pennsylvania and Chapman pears are greatly superior to the same sorts grown further north; and the Lodge, so poor with us, becomes really a fine pear at Philadelphia.

A PRODUCTIVE TREE.—A tree of the *Winkfield pear*, not of very large size, at S. WALKER's, bore one year 15 bushels of fruit. The second rate ones (that is after all the best had been selected,) sold for $6.00 per barrel. What would an acre of such trees yield per annum, admitting the value of the crop at half the preceding price, or $3 per barrel?

* This article was written for the Nov. No. of the Cultivator, but has been accidentally deferred to the present.

Honey Bees---The Apiary.

The old system of keeping honey bees has always appeared to me to be very defective. It is but one small remove from the state of nature—just so much of an improvement as to induce the bees to accept of it and serve in it in preference to their old hollow trees, and no more. Numerous experiments have proved that bees can be managed upon systematic and economical principles, just as well as cows, and other domestic animals can, and that the per centage of profit on the outlay and labor is far greater. An examination of the plan of an apiary, invented by Mr. GILMORE, of the state of Maine, has afforded me much pleasure, and led to a desire to call public attention to the improvement of this valuable department of rural economy. Before proceeding, however, to speak of the apiary, I will say a few words as to the habits of the honey bee. Many, nearly everybody, supposes that the bee collects honey from the nectar of the flowers, and simply carries it to its cell in the hive. This is not correct. The nectar he collects from the flower, is a portion of its food or drink; the honey it deposits in its cell is a secretion from its mellific, or honey secreting glands, (analogous to the milk secreting glands of the cow and other animals.) If they were the mere collectors and transporters of honey from the flowers to the honey-comb, then we should have the comb frequently filled with molasses, and whenever the bees have fed at a molasses hogshead! The honey-bag in the bee performs the same functions as the cow's bag or udder, merely receives the honey from the secreting glands, and retains it till a proper opportunity presents for its being deposited in its appropriate store-house, the honey-comb. Another error is, that the bee collects pollen from the flowers accidentally, while it is in search of honey. Quite the contrary is the fact. The bee, when in search of nectar, or honey, as it is improperly called, does not collect pollen. It goes in search of pollen specially, and also specially for nectar. When the pollen of the flower is ripe, and fit for the uses of the bee, there is no nectar; when there is nectar, there is no pollen fit for use in the flower. It is generally supposed, also, that the bee collects the wax from which it constructs its comb, from some vegetable substance. This is also an error. The wax is a *secretion* from its body, as the honey is; and it makes its appearance in small scales or flakes, under the rings of the belly, and is taken thence by other bees, rendered plastic by mixture with the saliva of the bees' mouth, and laid on the walls of the cell with the tongue, very much in the way a plasterer uses his trowel.

Now, by a proper understanding of these facts, the reader will be able to judge of the propriety of the improvements in the apiary. They must understand that the bee will make honey, no matter what food it may feed upon, if the food be such as is appropriate for the bee, and it will not eat it if otherwise. The flavor of the honey is derived from the aroma of the flowers or other food, but the article will be honey, and not molasses or sugar, whether the bees feed on flowers, or molasses, or sugar.

The apiary, therefore, should be constructed in such a way, and should be managed on such principles as to afford the bees the best accommodation, and fullest supply of food, at the least expense of time and labor to the bees, and the least cost to the proprietor. GILMORE's plan seems to the writer to afford all these advantages to a greater extent than any other. He constructs a bee-house of the size that will accommodate as many hives as he intends to keep. The house is made tight, with a window to afford light to the attendant. Inside frames are arranged to receive the hives. The hives are made in three divisions, one above onother, so that when the upper division is full of honey, it can be removed, and another put under the lower one. The tops of the several divisions are so arranged that the bees can pass through them to the division above. When the bees have multiplied sufficiently to require more room, a fresh hive is set by the sides of the old one, and the bees that on the old plan would have "swarmed," and probably have been lost, go to work in the new apartment, with a queen at their head.

This secures all the advantages of the old single hive system, with a queen to each family, and the community system, which prevents swarming, and the loss of bees. It is a curious fact, that although the bees of all the hive live and work in one common large community, yet the queens all remain in their several separate apartments, never leaving them like troublesome neighbors. The whole community form a large republic composed of numerous separate states, in a perfect confederacy.

But the greatest improvement of GILMORE is his plan of *feeding* the bees. He has prepared a kind of liquid food, which is placed in a feeding trough, under or near the hives, in the house, at which the bees feed, instead of going out in search of flowers; so that they only have to go out when they require "*bread*," in search of pollen. This saves much time, and enables the bees to produce much more honey than they do on the old plan. The going out after pollen, is just enough to afford them necessary exercise and fresh air, and in wet weather they have their regular supply of food, and are not obliged to fall back upon their stored honey. Though Gilmore has made no claim to the discovery, it is certain that the artificial food may be *flavored with vanilla or lemon*, or any other aromatic, so that the honey will partake of it, and honey of any flavor may be produced. The injurious qualities of wild and West India honey—that prevent so many people from eating it—may also, by this artificial feeding, be mainly, if not entirely avoided, as it is pretty well known that these qualities are derived from the wild plants which the bees feed upon, just as the flesh of pheasants and wild animals, are often rendered poisonous by the wild berries and foliage they feed upon; and as cow's milk is rendered garlicky and bitter, by what she feeds upon. The advantages of GILMORE's plan, therefore, are very great, and it is believed that there is no appendage to the farm that would pay so well, for so small a capital, as a snug apiary, constructed on those principles.

The annoyance of the bee moth, for a remedy for which so much trouble has been taken, and so many inventions made, it is believed is more effectually provided against by this plan, than by any other. In the first place, the external house acts to a great extent, as a shield, the

hives being all inside, and some distance from the walls; in the second place, all the bees of all the hives are in immense numbers inside the houses, in vigorous and robust health, ready to attack and destroy any moth that may venture to approach their domicil. For, although there may be in the house fifty different hives, each with its queen, the bees of the whole mingle socially together, and are ready at all times to make war upon the enemy.

This plan also enables the proprietor to have his honey "put up and packed ready for market," in large or small packages or boxes, by the bees themselves. This is a most beautiful feature of the plan. The purchaser can get a box containing two pounds or twenty pounds, of virgin honey, that human hands have never touched, pure as "twilight dews."

But I have said enough, probably you will think too much, upon so small a subject. But when we consider that the production of honey may be made as important a subject of rural industry, as the dairy itself, I think you will agree with me, that much more might be said in reference to it.

The Drill Culture of Wheat, &c.

EDS. CULTIVATOR—No branch of improved husbandry has attracted greater attention among the wheat growing farmers, during the past six years, than the drilling of wheat and other small grains, by the use of appropriate machinery for the purpose. The drilling machines in use in this country, like the plows, have peculiar distinctive features, differing in many important particulars from those of Great Britain, or any other portion of the globe. There are already ten or twelve different patents, embracing each some particular quality of merit which entitle it to favor among their respective friends and advocates; but upon a practical examination of their working powers, a few will be found to possess such extraordinary advantages over the others in use, that even a person unacquainted with them would find no difficulty in determining which would, under all circumstances, be the most efficient and profitable. It is not our purpose at this time to decide in favor of this or that drill, but shall rather show a few reasons why the system of drill culture can in many cases be profitably adopted, and also, the effects it would produce upon growing crops of grain, when performed by an experienced and skillful workman.

We have been much amused in reading the flaming accounts widely circulated by interested parties in the sales of those drills, in favor of drill husbandry, and in many cases the most extravagant calculations have been made, having a tendency to deceive those who may blindly purchase the machines. It certainly cannot be questioned at this day, but that drilling in wheat possesses many valuable claims over the broadcast system of sowing grains; and what those claims are, and the circumstances under which the system could be advantageously practiced, will be presently satisfactorily explained.

A small saving of seed; regularity and precision in covering the seed to a good and suitable depth; an increase of product; a superiority in the quality of grain; less liability to the crop in lodging, and a protection to the crop against winter-killing and rust, are among the many reasons that may be adduced in favor of drill culture. The saving of seed is not much of an item, although many of the venders of machines set forth that a saving of from two to three pecks per acre is effected over broadcast sowing. In most cases too little seed is sown in this country, and even when seeded with a drill not less than six pecks of wheat should be sown per acre.

This practice is opposed to the theory set forth by many of the most enlightened farmers in England who have reduced their average seeding from three bushels per acre down to three pecks! and that too with an increased production, ranging from five to ten bushels per acre. In England, those who employ the drill for the sowing of wheat and barley, either horse or hand hoe, their crops in the early spring months; which practice has in no instance been carried out on a large scale on this continent. The stirring of the soil between the rows of growing crops of grain, produces stimulating effects on the plants equal to what are obtained on corn, potatoes, turneps, and on other crops, that are ordinarily hand or horse hoed; and therefore their sowing cannot be profitably practiced, unless the hoeing system be adopted, which cannot be done on a large scale, in a country like this where agricultural labor is enormously high, when compared with the low price of produce. A less quantity than six pecks of seed per acre, will lessen the average yield of wheat rather than increase it, although the drilling machine may be employed in seeding the ground. This is obviously the case in all locations where the winters are severe, and the plants are apt to be destroyed by frost, or seriously retarded in their growth by the freezings and thawings that occur during winter and early spring months. The ordinary distance that drilling machines deposit the seed in parallel rows, ranges from eight to ten inches asunder, and on most soils ten inches is preferable to eight, from the fact that the greater the distance between the rows, the better opportunity will the rays of the sun have to directly strike on the growing plants, thus maturing and hardening the outer surface of the straw, which in connection with wind and other atmospheric influences, will in a great measure prevent rust, mildew, blight and other diseases indicated by premature growth and maturity. If the seed be liberally and uniformily distributed to the depth of from three to four inches, in rows of not less than seven nor more than twelve inches asunder, it must be obvious that the plants will form a mutual protection to each other throughout the whole line of rows, and the roots will become so completely interwoven in each other that the one cannot become dislodged by frost, without removing with it a solid phalanx of neighboring plants. This by good management on the part of the farmer need not happen, from the fact that if the surface of the ground be kept free from a superabundance of water, the frost under such influences will rarely have a prejudicial effect upon the crop. In ordinary cases the sowing of wheat commences about the first of September and closes with that month. By early sowing and liberal seeding the plants obtain a rank growth before the setting in of winter, and the tops of those plants form a sort of umbrella covering to the roots, which to some extent protect them from the severity of late autumn and early spring chilling winds, which advantage cannot be reaped when the broadcast system is adopted. From this influence alone under favorable circumstances, the crop will attain a much earlier and more perfect development, and a perceptible difference in favor of drilling may be seen in the crops during the whole of the season, so much so that the most skeptical would readily accord to the system a decided preference over the broadcast sowing.

If the machine employed be efficient, and the ground be brought to a proper state of cultivation, the seed may be distributed with the greatest degree of precision, and the field throughout will present a perfect uniformity exacting from all portions of it a relative product in proportion to its powers of production, which could not be so perfectly done, if even the most experienced seedsman be employed, by the common process.

By using the drill, the seed may not only be sown much more evenly, and buried under the surface at a given uniform distance, but unlike the common plan, the work may go on successfully somewhat regardless of the

peculiar state of the atmosphere, and high winds especially prove no barrier to the progress of the work. As the best season for sowing wheat is confined to the single month of September, throughout the entire wheat belt of the union, any process, that would at all times secure the early and perfect completion of the work, is deserving of consideration and favor. This in the hands of a good managing farmer may be greatly facilitated by the use of an efficient drilling machine, and any person who becomes once acquainted with their properties and use, would not return to the old and somewhat slovenly method, although they obtained no additional yield from the use of the implement.

An increased product may in a majority of cases be realised, but the greatest disappointments will occasionally occur, which to the uninitiated might create prejudices against the improvement, from the fact that the cause of the failure could not be practically comprehended. It will frequently happen that an increased production of from eight to ten bushels of wheat may be realised per acre from the employment of the drill, but in other cases decided damage rather than a benefit will accrue from the practice. It is of the greatest importance to the farmer that he should know all about the influence that this, or that, practice has upon his growing crops; and it ought to be the business of the agricultural philosophers of the day, to point out the shoals and quicksands upon which so many flounder, in their vain attempts to carry out systems of farm practice and management, of which they are practically totally unacquainted. No one should attempt to use the drill unless the ground be previously brought into a fine state of tilth and cultivation. The work cannot be creditably or perfectly done when the ground is rough, or the surface is uneven, and when an attempt is made to plow the land in ridges, either narrow or wide, regard should be had to regulating the width of those ridges, so as to work the drill lengthwise of them, securing, if possible, straightness and uniformity, so that the furrows made by the drill shall correspond exactly with the open furrows of the ridges. On a fine porous wheat soil, such as is underlaid either by a strata of gravel or drift sand and shales, some five feet from the surface, there will be found no advantage whatever from forming the land in narrow or even wide ridges, as no surface water can long remain in contact with the roots of the wheat plants. In the management of all soils of this kind, the indented appearance given the surface by the coulters of the drill, is a decided advantage, as the rows of plants are considerably below the common surface of the ground, and they are thus sheltered from the raking winds of winter, and in process of time the soil crumbles down around the roots, thus imparting strength and vigor to the plants at a period when their growth is passing through its most delicate stage. Whilst this is true on all soils on which the surface water passes off freely, the reverse is the case, on heavy clays, or on soils which are underlaid near the surface with a close retentive sub-stratum calculated to hold water like a basin. The furrows or indented lines formed by the drill, act as so many reservoirs to retain the falling rains, and when the ground freezes up in winter, by a minute examination, it will be found that immediately around the roots of the plants it is completely saturated with water, and in many cases pools of ice are formed by this influence in places where the water would have passed from the surface had the common practice of sowing been adopted. The losses obtained from this cause have in many cases staggered the faith of many of the strongest advocates of the system, and not a few can be found who are disposed to condemn rather than favor drill husbandry, simply because they did not understand the influence that an imperfect application of the practice would have upon the growing crops. In all cases where the drill is used upon a stiff clay soil, or where the water would be likely to remain on or near the surface, a light pair of seed harrows should be passed singly lengthwise of the drills, which will smother the surface without displacing the seed from the bottom of the drills, and thoroughly remove the cause producing the prejudicial effects pointed out.

When the drill is used by a farmer, who, understands its practical working powers, and who takes proper pains in preparing his ground for its use, he may not only reasonably hope for a greatly increased product, but he may safely expect that the sample of the grain will be superior to his neighbor's. The straw is invariably much harder than when the seed is sown broadcast, and consequently the rust is not so liable to attack it; and besides the crop is not so likely to lodge, as would be the case were the common system of sowing practiced. The advantages resulting from the adoption of the drill system of husbandry, might be greatly extended, but sufficient has been adduced to convince those whose attention may be turned to the subject, that in careful hands at least, no modern improvement will pay a better interest upon the investment, than drill culture.

This, however, like most other branches of improvement, requires great care in its management. It ought not to be attempted by a slovenly farmer—and unless the ground be previously fitted for the process, it would be unwise to attempt using the machine, although it might be in the hands of the farmer, and be paid for at an extravagant rate. Only now and then a field is sufficiently cultivated to warrant the employment of a drilling machine; and this fact is pressed upon the attention of the readers of the Cultivator at this time, to prevent them from taking steps which for want of better experience, they might have reason to regret. The use of the drill is strongly to be commended, but no slovenly farmer need expect to derive any advantage from it. W. G. Edmundson. *Keokuk, Iowa*, 1851.

State Agricultural Societies.

Editors of the Cultivator—The enterprising farmers in Vermont are friendly to a State Society for the advancement of Agriculture; many of them read The Cultivator, and they would, doubtless, like to know the doings and present position of their State Association. It may also, perhaps, be agreeable to individuals in other communities, about engaging in a similar enterprise, to have our state organization in a convenient form for reference. With your permission, then, I will give a brief history of the Vermont State Agricultural Society.

Several months ago, The Cultivator and other papers, announced that a respectable number of the farmers of Vermont, met at Middlebury, and resolved to try the experiment of a State Fair, fixing upon the 10th and 11th days of September, at Middlebury, as the time and place for holding the same. At the time and place designated, an Exposition was accordingly made; the people of the state were there in great numbers, and this first effort of the kind ever made in Vermont, proved quite successful, exceeding, in results, the expectations of its most sanguine friends. On the second day of the Fair, a State Society was organised, by the adoption of a Constitution, and by a choice of the necessary officers, a list of whom may be found in The Cultivator for November, 1851.

The Constitution is a pretty close copy of that of the New-York State Society, but for immediate and convenient reference, I here give it.

Constitution of the Vermont State Agricultural Society.

Sec. 1. This society shall be called the Vermont State Agricultural Society, and its object is improvement in Agriculture, Horticulture, and the Arts.

Sec. 2. The Society shall consist of such citizens of the State as shall signify, in writing, their wish to become members, and shall pay, on subscribing, not less than one dollar; and also of honorary and corresponding members.

The Presidents of County Agricultural Societies, or a delegate from each, shall *ex-officio* be members of this Society.

The payment of twenty-five dollars or more, shall constitute a member for life, and shall exempt the donor from annual contribution.

SEC. 3. The officers of this Society shall consist of a President, four Vice-Presidents, one to be located in each judicial circuit, a Recording Secretary, a Corresponding Secretary, a Treasurer, and Directors, to consist of the officers above named, and five additional members, and five of the ex-Presidents whose term of office has last expired, shall be *ex-officio* Directors; and also a General Committee,—members of which shall be located in the several counties, and be equal to the representations in the State Senate.

SEC. 4. The Recording and Corresponding Secretaries shall perform the duties usual to such officers.

The Treasurer shall keep the funds, and shall disburse them on order of the President, or a Vice-President, countersigned by the Recording Secretary, and shall make a report of the receipts and expenditures at every annual meeting.

The Directors shall take charge of and distribute or preserve all seeds, plants, books, models, &c., which may be transmitted to the Society; shall have charge of all publications; shall appoint the General Committee; shall have power to fill any vacancies which may occur in the officers during the year, and shall have the general control of all matters pertaining to the interest of the Society, not specially acted upon by the Society at large.

The General Committee are charged with the interests of the Society in the counties in which they shall respectively reside, and will constitute a medium of communication between the Directors and the other members of the Society.

SEC. 5. There shall be an annual meeting of the Society at such time and place as the Directors shall designate, at which all the officers—save the General Committee—shall be elected by a plurality of votes, and by ballot. Extra meetings may be convened by the Directors, and at such meetings twenty-five members shall be a quorum.

SEC. 6. The Society shall hold an Annual Cattle Show and Fair, at such time and place as shall be designated by the Directors.

SEC. 7 This Constitution may be amended by a vote of two-thirds of the members attending any Annual Meeting.

A meeting of the Directors was held at Burlington, on the 25th day of September last, when the General Committee were chosen, and also a committee to draft a Bill for the consideration of the Legislature, granting the Society an incorporation and an annual appropriation of money from the State Treasury. In October the following Bill was introduced to the House of Representatives, referred to the Committee on Agriculture, and by them returned to the House, with a report in favor of its passage:

An Act creating a State Society for the Promotion of Agriculture, Horticulture, and the Arts.

Whereas, certain citizens met at Middlebury, in this State, on the 10th and 11th days of September, A. D. 1851, formed an Association, chose a President, four Vice-Presidents, a Rec. Secretary, a Cor. Secretary, Treasurer, and a Board of Directors, named their Association "The Vermont State Agricultural Society," and announced its object to be "improvement in Agriculture, Horticulture, and the Arts:" —

Now, therefore, It is hereby enacted by the General Assembly of the State of Vermont:—

SEC. 1. Said citizens so associated together, with such citizens of this State as shall hereafter signify, in writing, their wish to become members of said Society, and pay, on subscribing, such sum of money as the Constitution or Rules and Regulations thereof, may prescribe, are hereby constituted a body politic and corporate, to be known and distinguished by the name of *The Vermont State Agricultural Society*, whose object shall be improvement in Agriculture, Horticulture, and the Arts. Said Society may make and establish such By-laws, Rules and Regulations, not inconsistent with the Constitution or laws of this State, or of the United States, as shall from time to time appear needful for its proper government,—and the By-laws or Rules and Regulations adopted by said citizens, at their meeting in Middlebury, aforesaid, shall be the By-laws, Rules and Regulations of said Society, until others are adopted by the members thereof; may have a common seal, and the same alter at pleasure; may sue and be sued, plead and be impleaded, contract and be contracted with, and prosecute and defend to final judgment and execution, in any court of law or equity; may hold by gift, purchase, or otherwise, real and personal estate to an amount not exceeding ten thousand dollars, for the promotion of the object of said Society, which estate shall be exclusively devoted to such object.

SEC. 2. The officers of the Association mentioned in the Preamble to this Act, shall be the officers of the Vermont State Agricultural Society, and shall hold their places for one year, or until others shall be chosen at a regular annual meeting of the Society called for that purpose, agreeable to the Rules and Regulations thereof. Thereafter, the officers of said Society shall consist of a President, four Vice-Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, and such number of Directors as may be determined by a vote of the Society. Said officers shall be chosen annually, at such time and place, and in such manner, as the Society by its By-laws or Regulations shall designate; shall hold their places until their successors are elected, and have power to fill all vacancies that may occur among them during the year.

SEC. 3 It shall be the duty of the Recording Secretary of said Society, to keep full and fair records of all proceedings of the same in a book provided for that purpose, and such book may be used as evidence in any Court in this State.

SEC. 4. Whenever the Vermont State Agricultural Society shall raise any sum of money not less than $1000, and place the same in the hands of its Treasurer, to be awarded and paid out in premiums as hereinafter mentioned, the said Treasurer shall make an affidavit of the same, specifying the amount of money so raised and deposited with him, which affidavit shall be filed with the Treasurer of this State, who is thereupon directed to pay to the Treasurer of said Society, out of the Treasury of the State, the sum of $1000, to be awarded and expended in premiums as hereinafter mentioned; and annually thereafter, a like sum of money, for a like purpose, is directed to be paid out of the Treasury of the State, to the Treasurer of said Society: *Provided*, however, that in each year, before said sum of $1000 shall be paid out of the State Treasury, it shall appear, by the affidavit of the Treasurer of said Society, that a sum of money not less than $1000 has been raised by said Society, and is in his hands for the purpose aforesaid.

SEC 5. At least $2,000 shall be annually awarded and paid out in Premiums by the Vermont State Agricultural Society, in such sums as said Society, by its Rules and Regulations, may, from time to time, direct; and it shall be the spirit and intent of such Rules and Regulations to encourage the people of this State in the breeding and rearing of the best and most profitable agricultural animals,—in the practice of the most correct methods of Agriculture and Horticulture; to stimulate them to enterprise, experiment, discovery and improvement in these primitive and important pursuits; so far as may be, to diffuse light and knowledge upon these subjects; and to promote the success of those arts worthily engaging the application of the people of Vermont.

SEC. 6. The Treasurer of said State Society shall withhold all premiums awarded on field crops, fat animals, orchard or general farm management, Maple sugar, the products of the dairy, and, generally, upon all the methods of Agriculture and Horticulture in regard to which it is desirable to diffuse specific information, until the person or persons to whom the same shall have been awarded shall deliver to said Treasurer, in writing, an accurate description of the process of preparing the soil, including the nature and quantity of the manure applied, and a full detailed statement of the manner of cultivating the land and raising the crop, feeding the animal, or manufacturing the article,—as the case may be,—also, of the expense, increase, and profits of the same: with the view to supply the exact and necessary data from which said Society may collect and disseminate useful information upon these subjects.

SEC. 7. It shall be the duty of the Treasurer of said Society to deduct from the premiums awarded to any person the sum required to be subscribed annually for membership therein; and said sum, so reserved, shall constitute such person a member of the Society for the year then next following.

SEC. 8. The Treasurer of said Society shall, in the month of October annually, furnish six copies of the Annual Reports of the Society to the Secretary of State, to be by him placed in the Library of this State.

SEC. 9. This Act is subject to alteration, amendment, or repeal, by any future Legislature.

SEC. 10. This Act shall take effect from its passage.

I am sorry to be obliged to say that the foregoing bill received little consideration from the Legislature, and was dismissed with the greatest despatch—not being deemed worthy of even a fair argument. It is really humiliating to humanity that almost always when legislative bodies are invited to do something to advance agriculture, they not only refuse, but often treat such application with contempt. There seems to be an inability to understand that whatever improves the agriculture of a State, directly or indirectly favors all other interests. An advancing flourishing agriculture is sure to invite in other trades and callings; and thus the school house, the church, good roads, in short, all the institutions and privileges of good society are readily provided, the necessary burdens of government are easily borne, and the flower of the population, instead of emigrating to other districts, causing the gradual depopulation and decay of towns, is tempted and induced to stay at home. Notwithstanding that an improving cultivation secures these other results, it is difficult to convince legislatures of the propriety of appropriating money for the promotion of good farming, though they will vote it to almost all other objects. Practically, so far as agriculture is concerned, the sentiment seems to be that the world must be rolled backwards; that nothing new, no discoveries or improvements are needed; that we must look to past ages for our rules of cultivation; that all of value, all the farmer can possibly need to know, all that is safe for him to practice, was found out ages ago. What a compliment the holders of such sentiments pay themselves, and their age generally! A sufficient rebuke to such ideas may be found in the memorable words of Lord Bacon, who, more than two hundred years ago said: "The opinion which men entertain of antiquity, is a very idle thing, and almost incongruous to the word; for the old age and length of days of the world, should in reality be accounted antiquity, and ought to be attributed to our own times not to the youth of the world, which it enjoyed among the ancients: for that age, though with respect to us it be

ancient and greater, yet, with regard to the world, it was new and less. And as we justly expect a greater knowledge of things, and a riper judgment, from a man of years than from a youth, on account of the greater experience, and the greater variety and number of things seen, heard, and thought of, by the person in years; so might much greater matters be justly expected from the present age, than from former times; as this is the more advanced age of the world, and now enriched and furnished with infinite experiments and observations."

The late Judge Buel, and his associates and colaborers in New-York, early and clearly saw the advantages that would flow to agriculture from associated effort, backed by appropriations of money by government. They were a company of as able, enterprising and useful men as ever graced and honored any State. They were far in advance of public opinion around them, and were at times thought to be quite wild and enthusiastic. After years of earnest solicitations for legislative aid to agriculture, and after exhausting every argument in its favor which their capacious minds could frame, they in part obtained the objects desired. Some of the measures they advocated, are now in full operation; the benefits realised therefrom in their own State can hardly be estimated high enough; the Transactions of the State Society they labored so earnestly to establish, are among the very richest contributions to the agricultural literature of the age, and form a light to enlighten the most distant parts of our country; and society already acknowledges its indebtedness to these men for their far reaching and comprehensive views, and early, earnest, persevering efforts to carry the same. I had lively hopes that Vermonters, seeing the rich results of concerted action and legislative aid to promote agriculture, would at once and quite generally favor measures calculated to produce like results in their own State; but judging from the present aspect, a majority choose rather to consider such measures in the light of an unsolved and uncertain experiment. Although disappointed in this part of our present effort at advancement, I cannot but hope that the spirit of the nineteenth century will get a fast hold upon our algriculture, that the dry bones hanging to it will be shaken, and awakened to life and activity, that the intelligent and active men of the State will be awake and in action, and that we shall somehow contrive to keep along with other communities in the forward movements of the times.

In Vermont, there are various circumstances favorable to the existence and success of a State Society; and around the State, on all sides, there are circumstances which make such a Society quite necessary to its farmers. We live compactly, and feel a community of interests. Railroads span the State in almost every direction. In from three to six hours, they can bring the people together in any one of a dozen of our largest villages; and they will quickly and free of charge, transport all kinds of stock to a place of exhibition. They open new, distant, and desirable markets to our farmers, and invite them to engage in new modes of farming, in the production of a variety of articles heretofore unprofitable for cultivation on a large scale, or of a nature too perishable to reach a suitable market by the old modes of conveyance. We have fine breeds of horses, cattle, and sheep,—indeed, in this regard, we occupy a high vantage-ground; and we must not only preserve their present excellence, but also strive to improve them. This is best done by associated effort, and by comparing ourselves among ourselves; and if we fail of employing these aids, each trusting to himself, in ignorance of what his neighbors are doing, other communities on either side of us, by organised efforts for improvements, will be altogether likely to get ahead of us.

A portion of the farmers of Vermont will certainly endeavor to sustain their State Society by voluntary effort. They will probably prove a sufficiently spirited band of men, to carry it forward successfully. The repulse they have met with in the outset, will quicken them in efforts to do not only their own work in the matter, but also a considerable portion of that which should have been done by the State through its legislature

Now let me suggest an idea or two regarding the advantages which may result to the country at large from the operations of State Societies. If generally organised in the states, they may exert a double influence; for while singly they have their own legitimate, decided, and powerful home influence, collectively, they may furnish the means for exerting a very important national influence. For instance: the State Societies of New-York and Georgia gave very general invitations to the friends of agriculture in other states, to meet with them at their late Festivals, to observe their improvements, and to consult with them and with one another, for the general welfare of agriculture. Now, if these State Associations become general, and these courtesies are extended from one association to another, the farmers of different and even distant sections will be likely to meet together more or less, compare views, counsel upon their mutual interests, become well acquainted with one another, find they do not differ so very much after all, and thus the agricultural community may move forward unitedly and understandingly in efforts to promote their great and common cause, and the prosperity of the country. If Congress should persist in a refusal to establish a Bureau of Agriculture at Washington, the farmers through their several State Societies, may in time form a Central National Organization, to do in part those things contemplated to be done by a National Bureau. In the course of a correspondence with Hon. J. Delafield, President of the New-York State Society, this subject has been briefly discussed. I trust he will pardon the liberty I take in now using an extract from one of his letters to me,—though of the character of familiar private correspondence. He says: "You allude, among other things, to a Central Agricultural Bureau. Upon this point I think we may move to advantage as State Societies or Associations; and with a hope to confer upon this and other matters of moment, I invited the Presidents of all other State Societies to attend our late Fair, and from each I received replies corresponding with the brief views then given. * * * It seems to me improbable that the General Goverument will take any decided steps in regard to a Bureau. The State Societies may form an association, hold its office at Washington, and being a representative body from the people, carry at an early day a clear conviction to Congress that such a Bureau as has been indicated, is imperatively needed in our Agricultural Republic."

While upon the subject of Agricultural Societies, allow me to throw in a word or two of caution. At all great or small festivals of these Societies, allusions of a distinctly political cast should be strictly avoided. Men of all political parties may meet to consider the interests of agriculture, and find ground spacious enough to stand upon, and weighty matters enough to consult about, all in harmony and good fellowship. These Festival occasions belong to agriculture, not to politics. Political occasions are numerous enough, in all conscience; and these men may kindle up such enthusiasm as the good of the country may seem to demand; but the quiet and harmony of agricultural gatherings should not be disturbed by matters so exciting as those of politics. F. Holbrook. *Brattleboro, Dec.* 2, 1851.

Apples, &c., in New-England.

Agreeably to your polite invitation sometime ago extended to me, I sit down to write a few lines for the pomological department of The Cultivator.

Not to waste time or space with any unprofitable preliminary remarks, I will say a few words respecting,

1. The Forms of Trees.—No writer that I am aware of has yet given a good classification of trees in this respect. Barry, in his "Fruit Garden," recently published, has made the attempt, but not, as I think, with entire success. For the purpose of bringing this subject under discussion I would propose the following terms for designating trees:

1. *Standards.*—These are trees grafted on stocks of their own species, and pruned after the common old fashioned orchard style; that is, with heads five or six feet from the ground, and clean naked trunks.

2. *Pyramids.*—These are trees grafted as standards, but branching out at, or very near the surface of the ground, and trained to a conical or *pyramidal* form—hence the name.

3. *Dwarf Standards.*—These are the same as standards, excepting the size.

4. *Half Standards.*—Trees of size and form between standards and dwarf standards.

5. *Dwarf Pyramids.*—The same as pyramids excepting the size.

6. *Half Pyramids.*—Trees of a size and form intermediate between pyramids and dwarf pyramids.

7. *Espaliers,* and if you please, *Dwarf Espaliers;* no description of which is necessary. These terms are convenient, comprehensive, and easily intelligible.

And now that I am writing, I have a few remarks to make in regard to the cultivation of

THE APPLE.—Our best educated fruit cultivators here in New-England, do not bestow such attention upon this inestimable fruit as it ought to receive. To the masses of our people, it is certainly the most important of all Pomona's gifts to the regions of the temperate zone. Indeed with regard to the section of country lying between New-Jersey and the *Ultima Thule* of Yankeedom, the apple is the first of fruits, "and there is none second." So important is the apple for culinary purposes, that, without either fresh or dried apples, a kitchen would cease to be a kitchen. Then again what a noble dessert fruit it is! One of the most ancient rites of New-England hospitality is to set a dish of ripe apples before a friend. How many associations of childhood entwine themselves around this noble product of the orchard! The New-England farm-house of the days of our fathers—the brave roaring fire of blazing logs piled one upon another in the glorious old, honest, broad open fire-place; the row of roasting apples spluttering upon the capacious stone hearth, and the good old grandmother at her little spinning-wheel, buzzing away in the corner!

Again—what a healthful and refreshing beverage is, or rather *might be,* made of this fruit! for it well known that with proper care and attention, and from suitable varieties of *grafted* apples, a cider *may be* made which will improve like wine by age, until it almost equals in richness the most highly esteemed products of foreign vineyards.*

But to return to my subject. Wishing some months ago to furnish a friend with a select list for an orchard of one hundred market apple trees, I was greatly surprised at the narrow limits within which I was compelled to confine myself. I was tempted to recommend to set the entire orchard with the *Baldwin* only; for this has proved to be by far the most profitable market apple hitherto cultivated in the Eastern States. But there are obviously some objections—at least so it seemed to my friend—to being confined to only one variety; and so after a great deal of deliberation, I recommended that one-half or more of the hundred trees should be *Baldwins,* and that the balance should consist of *R. I. Greenings, Hubbardston Nonsuch, Roxbury Russet,* and *Porter.*

I besitated to insert the Roxbury Russet, because it is not a very good bearer, and the fruit seems to be degenerating, three apples in four being knerly, wormy, or otherwise unmarketable. Still I retain it as being *the only* late keeping apple that I could recommend for general cultivation.

We have many other fine apples, I am glad to acknowledge. The *Early Williams,* for instance, is a beautiful, large, excellent fruit, but it is a mortal slow grower. The *Early Sweet Bough* is large, handsome, productive, and the tree grows well; but, as for all other *sweetings,* there is only a limited demand for it, most people considering such apples as valuable merely for culinary purposes. The *Duchesse of Oldenburgh,* Gravenstein, Leland's Spice, Mother, Northern Spy, and Sutton Beauty, all promise well, but none of them have yet earned a well established reputation in this section of the country. The Esopus Spitzenberg and Peck's Pleasant, are apples of exquisite flavor, but are not quite sufficiently productive. The Ladies' Sweeting is handsomer than Danvers Winter Sweeting, but its flavor is only second rate with me; and besides, they are both "nothing but sweetings."

Had my friend been at all inclined to experimenting, I should have recommended to him, as particularly worthy of trial, Duchesse of Oldenburgh, Leland's Spice, Gravenstein and Northern Spy, especially the latter; as we are actually entirely destitute of any *profitable* late-keeping variety of the apple.

You are well aware that a list of apples for market is one thing; a list for home consumption is quite another; a list for an amateur, still something else. The first class must be handsome, productive and popular; the second must be various in flavor and in season of ripening; the third class must be—every thing.

A list of market apples is already given above; I would recommend for home consumption, (flavor, productiveness, &c., taken into account,) the annexed list.

SEASON.	DESSERT.	SWEETINGS.
Summer,	—Early Williams.	Early Sweet Bough.
Autunm,	Porter.	Pumpkin Sweeting.
	Gravenstein.	
	Hub. Nonesuch.	
	Leland's Spice.	
Winter,	Northern.	Danvers Winter Sweeting
	Baldwin.	Ladies' Sweeting.
	R. I. Greening.	
Spring,	—Roxbury Russet.	
	(perhaps,) N. Spy.	

In the present state of information in regard to this noble but neglected fruit, I should hardly feel inclined to extend the list farther, pomological conventions to the contrary notwithstanding.

Should the above prove acceptable, I shall at some future time, send you some notices of pears and other fruits. Truly yours, GEO. JAQUES. *Worcester, Mass., Nov.,* 1851.

* Our esteemed correspondent will permit us to express our views in relation to the general use of such wines, in the language of a distinguished individual (P. T. BARNUM) as published in the Western Horticultural Review:—"Water is the best thing to quench thrist—it is the best to aid digestion—it forms a large portion of the human body—it is necessary to our life and well-being—and, although I trust I am not a bigot, I, as a matter of duty, as well as choice, eschew with all my heart, all substitutes for that glorious element which a kind Heavenly Father has provided so bountifully for every living thing, and without which the entire animal and vegetable creation must perish." EDS.

Fruit blighted by Hot Weather.

The intense heat of the weather during the fore part of last September, caused immense injury to all kinds of fruit. Apples, peaches, and grapes suffered greatly in all the region round Baltimore, and, I presume, wherever it prevailed. An Isabella vine, that for twelve years past has not failed to perfect an abundant crop of fruit, and last year, up to the first of September, gave assurance of a very large yield, failed to produce a single bunch of perfect fruit. The filling up and ripening of the berries was arrested at the commencement of that hot weather, the berries began to shrivel, the bunches seemed to hang lifeless, and the leaves of the vine to dry and fall off. About one-third of the berries had become dark colored, but did not fill up. On examining other vines about the city I found all in the same condition. None but the earlier varieties ripened. All late peaches became prematurely and imperfectly ripe, and made their appearance some two weeks too early in our markets, small in size, and of imperfect quality. Late apples were also injured, and the fall apples prematurely and imperfectly matured.

How are we to account for this singular effect of heat? I believe the explanation to be this:—

The nutritious juices are thrown into a state of fermentation while exposed to the hot rays of the sun and hot air in the leaves, and thus all the saccharine and other nutritious principles, instead of being sent back to the fruit are evaporated; and thus the fruit perishes for want of nutrition. This theory also explains a similar accident that often occurs to all kinds of plants during very hot dry weather, and which is often called *scalding*. Corn is often very much stinted in its grain by it. We know that the saccharine juice is converted by the assimilatiang organs of the plants into starch, &c. We also know that these saccharine juices possess all the elements of fermentation except temperature. Now it seems reasonable to suppose that if the necessary degree of temperature be supplied by the sun, fermentation will be immediately commenced, and the saccharine principle will be converted into spirits and evaporated from the leaves; and of course the fruit or grain that depended upon this saccharine principle for food, must perish. It is readily admitted that this is all theory; and that, if correct, the evil is without remedy. One, at least, of the readers of the Cultivator would be glad to hear what others. more experienced and skilful, have to say on the subject.

Another idea suggests itself. If the above theory be correct, the fruit and grain thus effected, *dies of starvation*. Can they then be wholesome food for man or beast?. Several persons who had partaken of the above described imperfect grapes, were more or less effected with stomach and bowel diseases. No one ever thinks of eating meat from an animal that had *died*, and if it die of starvation it would appear to be much less fit for food. Why should we eat fruit that has perished in the same way? All this may seem speculative and unworthy of attention, but it does seem to the writer worthy of careful consideration. G. B. Smith. *Baltimore, Nov.*, 1851.

Quality of New Fruits.

From the proceedings of that veteran body, the *Massachusetts Horticultural Society*, we copy the following decisions of its able fruit committee, relative to the character of some new fruits:

Melon.—*Christiana*,—very fine—on account of its earliness, flavor, and fine quality, maintains its character ast he best melon for general cultivation.

Pears.—*Beurre de Rhine*, new, green, pyramidal, large, melting, juicy, good.

Beurre Sprin, yellow and red, pyramidal, large, excellent.

Collins, very fine, juicy, and brisk.

Jersey Gratioli, large, obovate, yellow dotted with russet, of a fine vinous flavor.

Beurre Beaumont, very fine.

Bonne de Zees, large, oblong, yellow, melting, sweet, fine.

Beurre Triquer and *Benoist*, melting, juicy, fine.

Serrurier, promises well.

Nouveau Poiteau, alrge, promises well.

Soldat Laboreur, *Colmar d'Aremberg*, *Eyewood*, good.

Apples—*Walworth*, from Clinton county, N. Y., large, handsome, yellow with a flush, tender, pleasant, of fine quality.

Northern Sweet, same origin, very handsome, fine.

Bailey Spice, handsome, fine.

The Diana grape "continues to maintain its high reputation." [So far it appears to have failed at Cincinnati, where also the Isabella is becoming of little value, the Catawba taking the lead there of every thing else.]

The Best Pears.

C. M. Hovey, of Boston, who has a very extensive knowledge of both old and new pears, gives the following list of nine unexceptionable pears for that vicinity: Bloodgood, Bartlett, Louise Bonne of Jersey, Seckel, Belle Lucrative, Beurre Bosc, Le Cure (Winkfield,) Winter Nelis, and Beurre d'Aremberg. To these he adds the 28 following:—Glout Morceau, Paradise of Autumn, Dix, Beurre Diel, Doyenne Boussock, Beurre d' Anjou, Fulton, Andrews, Urbaniste, Tyson, Gansel's Bergamot, Rostiezer, Passe Colmar, St. Ghislain, Easter Beurre, Heathcot, Thompson's, Stephens' Genesee, Golden Beurre of Bilboa, Sieulle, Flemish Beauty, Compte de Lamy. Dutchess of Angouleme, Long Green, Marie Louise, Wilbur, Buffum, Lawrence, &c. Some "more recent kinds of equal merit" are not included.

Large Strawberry Story.

A writer in the *London Gardener's Chronicle*, describes the mode in which a distinguished strawberry raiser obtains enormous crops. It consists, in substance, in the use of a deep vegetable sandy loam soil, or reclaimed osier ground, so situated as to admit of perfect *irrigation*. The latter we know to have an astonishing influence on the increase of size in the growing fruit. The British Queen Strawberry is obtained by the most skilful cultivators of enormous size in that country; yet when that writer speaks of single specimens weighing three ounces, that is, about as much as a *moderate sized Spitzenburgh apple*, he draws very heavily on the credulity of those who have not seen them.

What Foreigners Think of Us.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., Nov. 26, 1851.

MESSRS. EDITORS—I take the above subject as one which has often, of late, occupied my own mind, and one in which we as a nation, whether we acknowledge it or not, certainly do feel a strong interest. Sensitiveness on this point, is one of our characteristics, and it is frequently carried to an absurd extreme. Filled with indignation at some foolish mistake, we often neglect hints or suggestions that would be of great advantage, if properly received and acted upon. This should not be so; there was more excuse for it when we were very young and comparatively powerless, but now we have grown to that stature, and to that established character, that we need not turn in a rage upon every snarler that yelps at our heels; we can afford to acknowledge imperfections, and can look every evil report fairly in the face.

With such views as these, I design to devote a few words to this subject, more particularly with reference to foreign reports of our agriculture. Our farmers have for the most part been neglected by foreign visitors, but within a few years this immunity has ceased, and they have received their full share of attention. The shiploads of agricultural produce that have kept pace with every European demand, have drawn the eyes of older countries to a new and powerful rival; the stories of boundless and fertile alluvial districts, have called men across the Atlantic to visit them, with the special end of deciding what our future would do with the markets of the other continent.

The most numerous of our visitors have been from Great Britain, and it is not to be disguised that their reports of us have, more than all others put together, awakened ill feelings, and caused strong protests against not only the correctness of the authors, but their desire to discover the truth. It must be acknowledged that ground has been given for such charges; when men come here, and scamper hastily over our country, with upraised eyebrows, and stiff, proud reserve; when they greedily swallow every prejudicial report, look out for defects rather than excellencies, and regard every variation from English manners or customs, not as belonging to another people and therefore to be considered in its adaptation to national characteristics, but as differing from an English standard, and therefore to be condemned,—then we naturally feel aggrieved, and insulted, by their misrepresentations.

It is unfortunate that so many Englishmen assume a defensive and hostile attitude toward all other people, immediately on leaving their native shores; that by their air of immeasurable superiority, and haughty condescension, they alienate those who would otherwise fraternize with them most cordially. There are most liberal and honorable exceptions to this rule, but in our American experience, we are constrained to believe that they are exceptions. I do not willingly say these things, but with real regret, for I have lived long enough in England and Scotland, to know and love their people. We may find fault with the British nation, but after all it speaks and will speak for itself. That little island, not so large as some of our single States, exerts a sway far mightier than Rome or Greece ever knew, and is at this moment more powerful than any kingdom of the world.

England has her great defects, her glaring inconsistencies, and what nation has not; but when we see her arms stretching around the globe, her colonies growing and prospering where others have failed or stood still, her sails whitening every sea, her wealth and strength compelling all others to be subsidiary to her aggrandisement and increase, we are filled with astonishment, and cannot but be proud to own such a parentage. The virtues and the vices of the English are in the main ours; indomitable perseverance, restless enterprise, far reaching energy, and strong practical sagacity, are common to the two nations, and these qualities are bringing them together in a friendly contest for supremacy. Already we divide the seas between us, and united can almost without a serious effort sweep every other flag from its surface; united as for the past few years, during the next century, and it seems probable that the English tongue will prevail gradually over all others. The same in the prevailing religion, the same in so many characteristics both of excellence and defect, we should encourage every tie of amity, and while each pursues by all proper means, the path to its own advantage, should frown upon all who in blind prejudice or narrow ignorance, either intentionally or unwittingly, pursue a course likely to sow seeds of dissension between us.

It is then in a spirit of kindness that I would examine in a general way, some of the criticisms that have lately emanated from our fatherland. I do not propose to mention names, but to point out some reason for certain erroneous conclusions.

In the first place, I would say distinctly, that we need not expect any satisfactory results when a traveller goes over our country by railway and steamboat, for a few weeks or months, collecting an item here, and an item there, and then comes out with a deep and profound disquisition upon our minutest springs of action and the causes which influence the most important of our national movements. He who attempts anything of this nature, without any apparent fear of error, or the influence of preconceived opinions, is so evidently superficial that he may be condemned in advance. If the writer has been clearly desirous of giving a candid relation, and has fairly tried, although in vain, to see things in their true light, we can only feel sorry that he has so greatly mistaken his vocation; but if he has been determined to see nothing but what he wished, we are now strong enough to express our contempt for his spirit of blind prejudice, and let our character and history alone contradict him.

It is not by any means my object, to deny that there is no good reason for fault-finding with us, for it is not to be disguised that we have many and glaring imperfections. Our agriculture more particularly, is quite open to animadversion, and the farmers of some districts, sunk in apathy, or armed with hostility toward everything new, deserve all the pungency, both of ridicule and reprehension, that can be bestowed upon them. Yet even here there is ample room for *selection*, as to the points with reference to which they may fairly be blamed. Some defects are inseparable from our present condition; others are the results of our faults and ignorance. It is

in the inability to distinguish between these, that most foreigners offend and alienate us.

Any candid observer who considers the circumstances of our farmers, must at once be struck with many conditions that differ so entirely from those formed in the long settled districts of Europe, as to bring us under the operation of an almost distinct set of laws.

The immense extent of rich country still unsettled, where land may be bought for a mere trifle, and the consequent high price of labor, accounts for many of the imperfections in our farming. While broad unbroken forests invite the pioneer to enter, and let the sunlight upon the vegetable accumulations of centuries; while verdant prairies open out almost like the boundless sea, there is a strong temptation to cultivate only for the present hour, to take off crops with no labor beyond that of plowing, and when the produce begins to decrease, to move toward another untouched tract. In this way a rolling shifting tide of population advances, leaving the land behind them in a partially exhausted condition.

Now it is all very well to say that this is wretched farming, and to declaim against our improvidence; but the fact is, that any elaborate system of cultivation would not succeed at all in these new lands so remote from the sea-board. The farmer who attempted to cultivate his land according to the most improved modern systems, would not obtain enough, large though his crops might be, to pay more than half of his expenses, and this for the reason that the conditions of Europe are reversed: in place of cheap and abundant labor and dear food, we have cheap food with scarce and high priced labor. The farmer then in the extreme west, must simplify every process to the last possible degree, before he can make a profit. As we come east into the longer settled regions, the state of society, the value of land, and the abundance of labor, allow of a higher and higher style of cultivation. Still even in our oldest agricultural districts, I of course exclude market gardens, &c., in the immediate vicinity of large towns, there are few if any places where the highest style of English farming, with all its expense of implements, and elaborate finish of cultivation, could be *profitably* carried on.

This is one of the points in relation to which foreigners are often most obstinately prejudiced; they demand the same kind of perfection that they have seen at home, the same implements, the same character of stock. In this they make the identical mistake that they do in condemning our laws and habits, simply because they differ from those to which they have been accustomed. Before speaking, they should consider the force of circumstances.

My opinion is, that in this country a man is a good farmer, whose land is improving under cultivation from year to year, and at the same time yielding him a profit. Thousands of farms in this condition might be pointed out, and yet perhaps not more than one or two would elicit the approval of that class of foreigners described in the preceding paragraph; they do not consider that perfection is relative; a system of cultivation may be essentially as high as any in England, and yet the farmer not be able to afford those niceties of the art which distinguish the best English and Scotch farms the result may be as good, while the system and appliances are cheaper and rougher. In short—while we would aim at the highest perfection, we must still compare ourselves with ourselves, and claim the right to decide what is the best farming on this side of the Atlantic, with only a secondary reference to foreign standards. We would follow all that is profitable and advantageous in the practice of others, but will not submit to be tied to their criterion of excellence.

It is my firm belief that some districts of this country, have improved as rapidly in their agriculture, during the last five years, as any that can be found in the world; but I perceive that it will be necessary to defer any further remarks upon this and other points, until my next letter. Yours truly, JOHN P. NORTON.

Milch Cows.

The *American Agriculturist*, in the number for February last, speaking of the "Oaks cow" and the "Nourse cow," said—"We can show numerous instances of larger yielders, whether of milk or butter." In our March number, we asked the *Agriculturist* to point us to these "numerous instances" claimed. In the September number of that paper, (five months after we asked for the information,) there is an editorial article on the subject, in which, in reference to its previous assertion, it is said—

"We had an impression that many results were on record to verify this assertion, but on recurring to written authorities, we found our convictions had been formed upon *oral* testimony, rather than the more formal and documentary."

The *Agriculturist* next calls our attention to "such brief authority," in support of its original assertion, "as on a moment's investigation has presented itself." Before proceeding to notice this "brief authority," it is proper to say that we called for the information alluded to, simply in relation to the settlement of a fact, and not, as our cotemporary falsely charges, from "zeal for upholding the *natives*." We gave the product of the Oaks cow in butter for three years, as follows: 1814, 300 lbs.; 1815, 400 lbs.; 1816, 484¼ lbs., and desired to know where we could find the proof in regard to the "numerous instances of larger yielders from Short-horn herds."

We obtained the facts in regard to the produce of the Oaks cow from the *Massachusetts Agricultural Repository and Journal*, vol. IV, pp. 254, 255. It appears from the account, that the product put down as for the latter year, embraced but a little over eight months, as follows: She calved April 5th, and suckled her calf till the 8th of May, when it was killed. While the calf was with her, she gave 17 lbs. of butter, and from the time the calf was killed, or May 8th to December 20th, she gave 467¼ lbs.—making a total of 484¼ lbs.—besides fattening her calf to the age of four weeks and five days.

Now, the *Agriculturist* said it could "show numerour instances" in which this product had been exceeded by "Short-horn herds," and we merely asked that the "instances" be shown to us. It has not complied with this request, although it has given two pages of what it calls "brief authority." We have carefully looked over all this, and still ask for evidence of the truth of the first assertion.

We have not room to notice all the so called "authority" which the *Agriculturist* brings forward, but will select a few examples, which may be taken as fair specimens of the whole.

The first example cited, is that of a Short-horn cow mentioned by Youatt, which is said to have yielded 372 lbs. of butter in 32 weeks. To prove that this beats the Oaks cow, the *Agriculturist* says—"Had this rate been continued for 52 weeks, she would have given 606 pounds." Sage conclusion! This is the rule assumed: If a cow will produce, say, 14 lbs. of butter in a week, soon after calving, and will continue to produce at the same "rate" for a year, she will give 728 lbs! Suppose we try the Oaks cow by this rule, and see how she will compare with this Short-horn. In *thirty-two weeks and two days*, the Oaks cow gave 467¼ lbs. of butter; and at the same "rate" for a year, she would have given 785 lbs! But every sensible person knows that such a rule is utterly fallacious, and that such a case as is supposed, could not, in the nature of *cows*, occur—it being virtually impossible that the same "rate" of produce in milk or butter should be continued for a year, that is yielded for a short time after calving. The case mentioned by Youatt is stated in his treatise on cattle, p. 247, (English edition,) where the number of pounds of butter given each week is put down; and the improbability of the same "rate" being continued for a year, may be inferred from the fact that during the last three weeks of the trial, she gave just *seven* pounds of butter each week!

Another example given by the *Agriculturist*, is that of a Short-horn cow owned by Mr. VAIL, of Troy, which in one produced 19¼ lbs. of butter. This *one week* appears to have comprised the entire trial. But look at the deduction which our cotemporary makes from it. He says—"Thus, a thorough-bred Short-horn produced over 2 pounds 12¼ ounces of butter per day, which rather exceeds the quantity yielded by the Oaks cow." And yet, according to the same article, the Oaks cow produced—"a fraction over an average of 2¾ pounds per day," from the 5th of April to the 25th of September!

Next follows a statement,—on whose "authority," except that of the *Agriculturist*, does not appear, as it is supported by no reference,—in regard to the production of butter from Col. POWELL's cow Belina. It is asserted that she gave an average of sixteen pounds of butter per week from the 20th of September 1830, to the 20th of May following.

The only account of the butter produced by this cow which we have been able to obtain, (although we have written to Col. POWELL on the subject,) is that published in a work entitled "Hints for American Husbandmen with Communications to the Pennsylvania Agricultural Society,"—1827. It is there stated that,

"Belina produced milk between Thursday morning the 24th, and Saturday evening the 26th [May 1827,] i.e., in three days, from which eight pounds thirteen ounces of butter were obtained—at the *rate* of 20¼ pounds per week."

So much for three days. Will the *Agriculturist* inform us where we can find an authentic record of the statement that the cow in question produced sixteen pounds of butter per week from the 20th of September to the 20th of May?

National Agricultural Bureau.

President FILLMORE, in his late Message, reiterates his former recommendation for the organization of an Agricultural Bureau. He says:

Agriculture may justly be regarded as the great interest of our people. Four-fifths of our active population are employed in the cultivation of the soil, and the rapid expansion of our settlements over new territory is daily adding to the number of those engaged in that vocation. Justice and sound policy, therefore, alike require that the Government should use all the means authorized by the Constitution to promote the interests and welfare of that important class of our fellow citizens. And yet it is a singular fact, that whilst the manufacturing and commercial interests have engaged the attention of Congress during a large portion of every session, and our statutes abound in provisions for their protection and encouragement, little has been done directly for the advancement of agriculture. It is time that this reproach to our legislation should be removed; and I sincerely hope that the present Congress will not close their labors without adopting efficient means to supply the omissions of those who have preceded them.

An Agricultural Bureau, charged with the duty of collecting and disseminating correct information as to the best modes of cultivation, and of the most effectual means of preserving and restoring the fertility of the soil, and of procuring and distributing seeds and plants and other vegetable productions, with instructions in regard to the soil, climate and treatment best adapted to their growth, could not fail to be, in the language of Washington, in his last annual message to Congress, a "very cheap instrument of immense national benefit."

Trial of Reaping Machines.

The English papers inform us of the result of a trial which took place on the 25th and 27th of September, between Hussey's and McCormick's reaping machines, under the auspices of the Cleveland Agricultural Society It was a trial agreed on by the parties interested in the respective machines, who signed an agreement by which the reapers were placed in the hands of thirteen jurors who were directed to ascertain which of the two—

1. Cuts the corn in the best manner.
2. Causes the least waste.
3. Does the most work in a given time.
4. Leaves the corn in the best order for gathering and binding.
5. Is best adapted for ridge and furrow.
6. Is the least liable to get out of repair.
7. At first cost is less price.
8. Requires the least amount of horse labor.
9. Requires the least amount of manual labor.

Whichever of the two, so tried, a majority of the jury ascertained to combine the greater number of the above qualities, was to be pronounced the best implement.

The following is the substance of the report of the jury:

The jury regret exceedingly the most unfavorable state of the weather on the days of trial (a perfect hurricane raging the whole of the first day,) and their consequent inability to make so full and satisfactory a trial as they could have wished.

The machines were tested on a crop of wheat, computed at 25 bushels per acre, very much laid; and on barley at 25 bushels per acre, very short in the straw, and if possible more laid than the wheat.

The jury, taking the different points submitted to them into consideration, express—

1. Their unanimous opinion that Mr. Hussey's machine, as exhibited by Messrs. William Dray and Company, cut the corn in the best manner, especially across ridge and furrow, and when the machine was working in the direction the corn laid

2. By a majority of eleven to one, that Mr. Hussey's machine caused the least waste.

3. Taking the breadth of the two machines into consideration, that Mr. Hussey's did most work.

4. That Mr. Hussey's machine leaves the cut corn in the best order for gathering and binding. This question was submitted to the laborers employed on the occasion, and decided by them as above, by a majority of 6 to 4.

5. Their unanimous opinion that Mr. Hussey's machine is best adapted for ridge and furrow.

6. This question was referred by the jury to Mr. Robinson, foreman to Messrs. Bellerby, of York, a practical mechanic of acknowledged ability.

7. That Mr. Hussey's machine at first cost is less price.

8, 9. The jury decline to express a decided opinion on these points, in consequence of the state of the weather.

In regard to the trial, the *Gateshead Observer* remarked—"One thing was clearly demonstrated by both machines—that reaping by machinery is practicable. As surely as the threshing machine has superseded the flail, so certain is it, that the reaping machine will set aside the scythe and the sickle."

Manufacture of Manure.

We have been favored with the annual Report of the doings of the *St. John* (N. B.) *Ag. Society*, for the last year, from which we select the following, from a statement furnished by Mr. ROBERT BOWES, of the manner in which he manufactures annually large quantities of manure. It is worth remembering.

I have the bog earth raised one year before being mixed with any thing, as muck is so long excluded from the atmosphere and sun that it requires a year's frost and sun and air to absorb the sour water properly out of it, to make room for the rich liquids it is to receive in tanks and elsewhere. I keep my cows in the barn at night, and place dry muck behind them to absorb the liquid manure. The cow stable is cleared out every morning, and the manure is mixed once a week with one load of rich earth to three of manure. Clay loam is the best, if it can be got, to mix a compost, as there is a retainer in clay that other earths are not possessed of. In addition to this, I have in rear of my dwelling house a tank sunk that holds thirty common cart loads of dry muck; this tank is fourteen feet long, seven feet wide, and six feet deep; it is made of three-inch plank, with hackmatack posts and is properly caulked and paved to hold water. When this tank is is filled with the dry muck, there are conductors that convey all the slops from the kitchen into it, as well as all the chamber lye and the soap suds from an outside kitchen; the hearth ashes are likewise put into it in a dry state. In about a month, when the tank gets pretty well filled up with the liquid, it gets into an acid state, and in a few days will ripen and be ready for removal, which is easily known by a disagreeable odour and an increase of yellow flies. In the spring and fall of the year it requires five or six weeks to ripen, as the weather is not so hot. To prevent surface water getting in, the tank has a covering, which is removed when required. I can make at least one hundred cart loads of good powerful manure by this tank in a year. I have manure removed to a large shed at the end of my cow stable, the bottom of which is in the shape of an amphitheatre, from which no liquid can escape. I add one load of earth to three loads of tank manure, which, in the fall of the year, will cover the floor of the shed about four feet deep. The manure from the cow stable is thrown on the top of this through the winter, and spread evenly over it. The roof of the manure shed is constructed so as to admit the rain freely, which washes down the liquid into the compost; but the sun and wind are excluded.

I have a piece of ground, about a quarter of an acre, which was so poor that it would give nothing but weeds. In May last I plowed and harrowed it, and then put on six loads of tank manure, unmixed, to try its strength. I sowed it with barley, harrowed it well, and rolled it. I never saw ranker barley, and I am happy that you saw it, so that you could judge for yourself.

The Primate Apple.

About a year since, we noticed an apple which had been described *as new* in Hovey's Magazine under the unpomological name of "Rough and Ready," remarking at the same time that it was an old variety, having been cultivated in different parts of Western New-York for twenty or thirty years. A late number of that journal furnishes a communication from A. Fahnestock of Syracuse, tracing this variety to eastern origin, and to grafted trees in Western New-York from twenty to forty years old. The oldest name known appears to be the PRIMATE—a name that will probably remain fixed to this variety.

Management of Bees.

EDS. CULTIVATOR—I have been for several years, a successful owner and manager of bees, and am led to wonder that farmers do not more generally include this among their varieties of productive stock. I am confident that, on a comparatively small scale, it makes the most profitable return for the investment and labor required, of all the stocks a farmer can keep. They require no daily feeding, no housing, save the two dollar tenement allotted to each separate colony; no fencing, either for protection or escape; no room, when hung on frames in open order, where grass can grow under them; and no expense of wintering, as they provide their own stores.

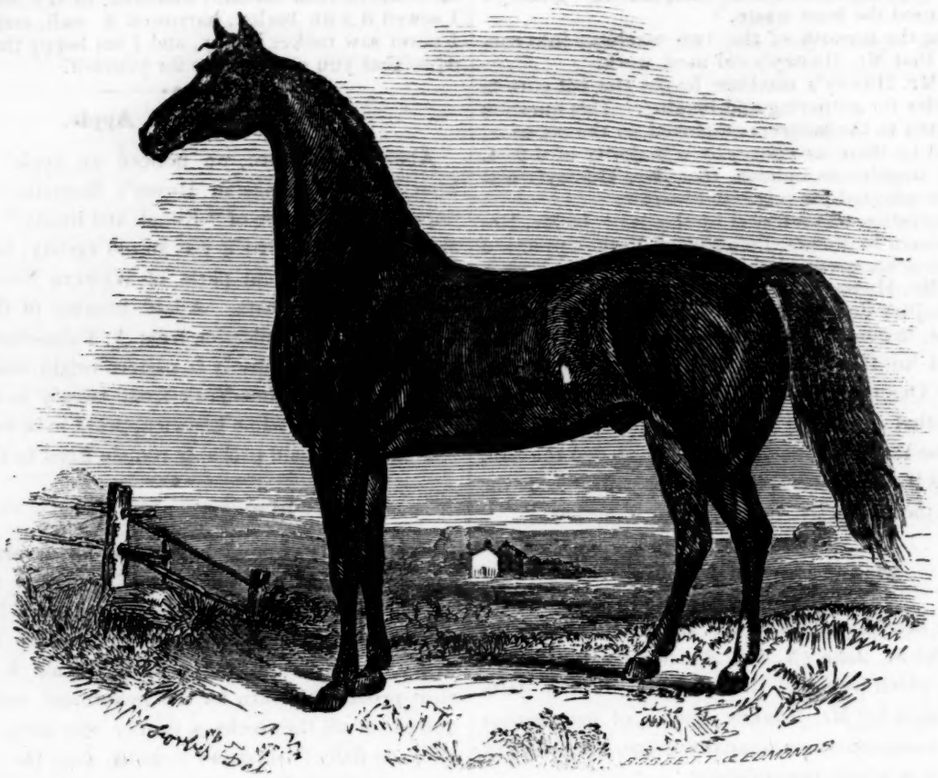
I have a grass plat of about nine square rods, surrounded by a clothes line of tinned wire, which has stood the weather for the last ten years without rusting, and within this are arranged my bees on frames. I cut two crops of grass each season, and have some thrifty young fruit trees interspered. I use WEEK's Vermont hive, and think it the best in use. My hives are made of pine plank, painted white, so that they neither warp nor allow the comb to be melted in hot weather. I had 28 swarms last spring, and shall sell $150 worth of honey. I may at some future time give in detail the result of several years experience in this business, with some hints on management. H. W. BULKELEY. *Ballston, Oct.* 1851.

Seedling Grapes.

Nicholas Longworth informs us in the Western Horticultural Review, that he has a few thousand seedlings from our best native grapes, and of one superior variety, has 800 plants of extra vigorous growth, and shall be disappointed if he has not grapes of black, white, and red color, among them, equal in the size of the grape and the bunch, to the Black Hamburgh, and its rival in quality. So much for a man renowned for his doubts and incredulity. He says two or three years will test the question.

Chickens versus Insects.

Cuthill says "one bantam is worth fifty toads." He states that his rubbish corner, where all the rakings, leaves, and general refuse of the garden were put, became the grand breeding-place for all sorts of insects He inclosed it with four-feet laths, and placed a brood of bantams there; it is now the most valuable corner of the garden.



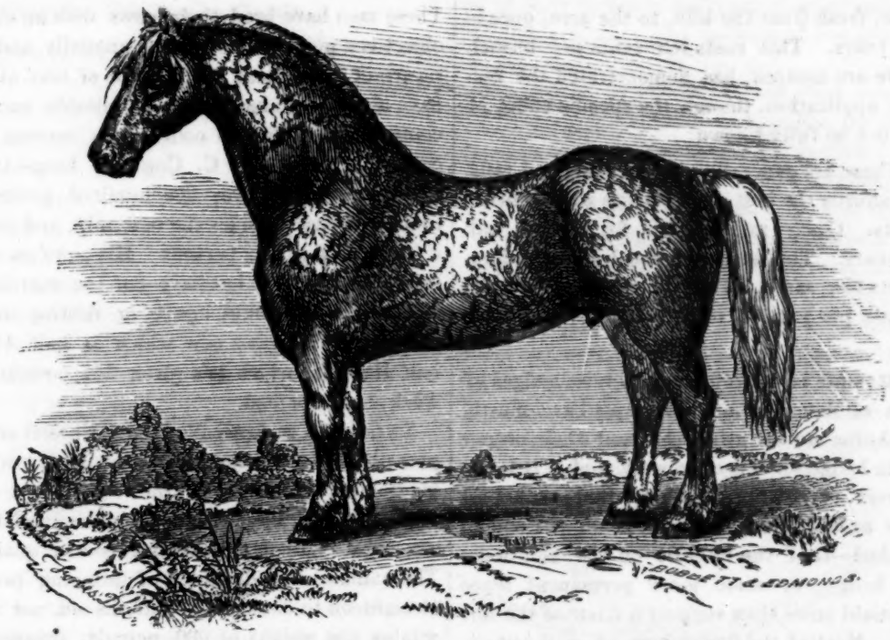
"Consternation," the property of J. B. BURNET, Syracuse,—received the highest premium of the N. Y. State Ag. Soc. on Blood Horses, in 1845, and has received several certificates as the best horse in that class, at several subsequent shows. "Consternation" was imported by Mr. ALBOTT, of Oneida county. He is a horse of good bone and substance, and is the sire of much good stock in that locality.

Farming in Pennsylvania.

BARNS.—In that part of Pennsylvania through which we passed, the barns are generally built of stone. They consist of two stories, the lower of which is divided into apartments for horses and cattle, and the upper is appropriated to the storage of hay, grain, &c. The walls are usually very thick—not less than two feet—and being well laid in mortar, are nearly impervious to moisture and air. Windows are placed in the walls at proper places, for ventilation. The large doors are on the side, and teams with loads reach the floor of the second story by means of a bank or wharf made for the purpose. Stationary horse-powers, mostly on the lever principle, requiring from five to six horses for threshing grain, are generally placed in the basement, or in an adjoining building. In some instances these powers are being displaced by the endless-chain powers, which occupy much less space, and are worked by one or two horses. The stalls are very warm—or can be made so—and in winter afford excellent quarters for the animals. In warm weather, they may be cool, but in some instances there appeared to be insufficient ventilation. The fodder is thrown from the upper story through scuttles or holes in the floor, and is then distributed to the various animals.

The practice of pitching hay from the load by horse-power, prevails on many farms in Bucks county. The apparatus for this operation consists of a strong fork, to which is attached a rope passing over a pulley fastened to the ridgepole of the barn, and thence over another pulley attached to the barn-floor. A horse is attached to the lower end of the rope and when the fork is plunged into the hay he raises it by pulling. The balance of the fork when loaded is preserved by a small rope, attached to the end of the handle, and held by a man on the floor, who by slacking the hold of the rope, permits the fork to discharge itself, when it has reached its destined place. By this contrivance the hay is readily raised to the highest parts of the barn. A man, with a boy to lead the horse, can pitch six tons of hay in an hour,—raising it fifteen to twenty feet.

MANAGEMENT OF MANURE.—The general plan of the barns is tolerably convenient, as respects most of the arrangements; but they differ in some important features from the plan which is most approved in some other sections, especially as to the accommodations for animals and the disposition which is made of the manure. The stalls are daily cleaned, and the manure is thrown into the yard. The impression of a New-Englander, accustomed to depositing manure in a cellar under the barn, would be that this exposure of that substance, spread about as it is over the yard, would be productive of great loss. It is probable that some loss does take place under these circumstances, but to a less extent than would occur if it were not for the fact that the manure is mixed in the yard with a large quantity of vegetable matter. Wheat is largely grown on many of the Pennsylvania farms, and the straw is at intervals spread over the yard, and is trodden in by the stock with the manure from the stalls, which is also spread about the yard. This absorbs



"Clyde," the property of Mrs. JANE WARD, Markham, Canada West,—received the first premium in the class of foreign draft-horses, at the show of the N. Y. State Ag. Soc. in 1848, and a certificate as the best in the same class, at the show of 1851. He is of the Clydesdale breed, so celebrated in Scotland, as draft-horses. He is a horse of great size—having weighed upwards of 2,000 lbs.—and evidently possesses great strength, as is indicated by his capacity of chest, muscular quarters and close jointed, sinewy limbs. The chief defect in his shape is a hollow over his loins, which is shown by the figure. The figure, however, fails to give an idea of the massive size, and imposing appearance of the horse, being comparatively too small and light in the body.

the liquid and prevents the waste of gases from the manure. The urine voided by the animals in the stalls is partly taken up by the litter with which they are (or may be) abundantly supplied, partly soaks into the ground, (the animals generally standing on the ground without any intervening floor) and partly runs into the yard. But with all practicable attention, there is more waste of this valuable liquid than there is where the animals are kept over cellars into which the manure and urine falls, and is there mixed with muck, litter, &c., to any necessary extent. In some instances, it was noticed that there was a drainage of the liquid from the yards—the *extract* of the manure being thus carried into the highway, or a stream, or to some neighboring field where it rendered a small portion of the soil too rich to give good crops. This is scarcely avoidable where there are no means of governing the quantity of water which goes into the yard. In seasons of abundant rain more water will accumulate in the yards, unless it is allowed to run away, than is useful for the proper rotting of the manure. For this reason a sheltered depository, where just the requisite amount of moisture could at all times be secured, and where it would be protected from washing, and from exhalation, would be preferable.

But it will perhaps be argued, that it is necessary to spread the straw and corn-stalks, which are to be converted into manure, over the yard, in order that they may be broken up and made short by the tread of stock—that if the litter were thrown into a mass with the manure, it would not rot well, and hence could not be readily moved with the fork or shovel. The answer to this is, that it is better to cut the straw and corn-stalks with a machine. This is readily and cheaply done by the application of horse-power, and is the quickest and best way of converting these articles into manure. They absorb more liquid when cut, mix better with the manure and offer no impediment to its being worked over for composting, or loaded for carrying to the field. When spread in the yard, and uncut, these substances decay slowly, and even when deposited on the wheat or corn-field, are often in so rough a state as to obstruct the operations of the plow and harrow. This objection would be done away by passing the materials through a cutting machine.

The common practice in the section of which we are speaking, is to spread the manure on the surface of the ground, for wheat and corn, and plow it in three and a half to four inches deep—a very suitable depth for burying manure, unquestionably, though it can scarcely be doubted that it would be useful to loosen the soil, which is of a tenacious tendency, to a greater depth. We remarked in a previous chapter, that the land here is seldom plowed deeper than five inches. It seemed to be the almost universal testimony, that all experiments at a greater depth had resulted injuriously—that the mixing of the underlying clay with the surface soil, tends to sterility. Some examples of this kind were detailed to us, by persons whom we regard as entirely reliable; but no trials at subsoiling, so far as we learned, had been made in this district. It would be highly desirable to ascertain what would be the effect of loosening this clayey stratum, thus opening it in some degree to the action of the air, and giving to the roots of plants a wider extension.

It should have been mentioned when speaking of the course of cropping, that it is usual to apply about fifty

bushels of lime, fresh from the kiln, to the acre, once in six or seven years. This costs ten cents per bushel. Experience, we are assured, has demonstrated the usefulness of this application, though the specific effect of the lime may not be fully known.

FENCES.—These are generally made of posts and rails. White cedar affords the best rails; white oak is much used for posts. Cedar rails will last forty years, oak posts twelve years. The rails cost nine dollars per hundred—the posts the same. The cost of the fence when set, is fifty cents per pannel, of eleven feet—four rails to the pannel.

Frequent attempts have been made to raise hedges of various kinds of thorn. These attempts have mostly failed. The thorns do not grow well, and their proper management in hedge form is often neglected. It is the opinion, however, of judicious farmers, that such post and rail fence as has been described, is on the whole, most economical—that the interest on the additional sum which a hedge, or some more permanent fence would cost, would more than support a fence of the former material. Most of the fences here are well put up, present rather a neat appearance, occupy comparatively little ground, and form a good barrier against stock.

HORSES.—The horses appear to partake in a great degree, of the character of the Dutch stock, introduced by the early emigrants to this district. They seem to do tolerably well for common farm purposes. They are large, and throw so much weight into the collar, that they readily carry large loads. But in general they are not quite the right kind of animal even for draft. Their defects are, being frequently long in the back, not well ribbed up, inclined to be pot-bellied, long-jointed, with a laxness of tendon and muscle which unfits them for endurance. They tend to carry much flesh, and when in high order, as they often are, make a showy appearance, and please the eye of the cursory observer. There are exceptions to this description, and animals may be found which are comparatively free from these defects.

In a few instances we met with horses begotten by the noted Norman horse imported and owned by EDWARD HARRIS, Esq., of Moorestown, New-Jersey. They are generally excellent, as farm horses,—much more strongly made, and of better action than the Dutch stock. A general cross with such a horse as Mr. HARRIS'S, would be a great improvement in those parts of Pennsylvania which we visited.

CATTLE.—Most of the cattle which we saw, appeared to be of mixed blood, and mixed too, without regard to any particular rules or object. In some neighborhoods the blood of the Short-horn was very obvious. On some farms the full bloods of that breed had been tried—the stock having been obtained from the herds of Messrs. POWELL, WOLBERT, CORE, and others. The general testimony was that they were not sufficiently hardy, and had not, on the whole, manifested any superiority for the dairy. Some herds of cows were met with, which were a cross of the Short-horn with other stocks, whose dairy properties were evidently good. As examples, we might name those of Messrs. JOHN FEASTER, JAMES C., DAVID, and ADRIAN CORNELL, Jr,, near Newtown, Bucks county. Mention was made of the latter in a former chapter. These men have bred their cows with an object. That object is a good yield of butter, annually, and a profitable return of the animal in the shape of beef at last. They have already attained a very creditable success, and by continuing a judicious course, this success will be increased. Mr. JAMES C. CORNELL keeps twenty cows, and they average over 200 hundred pounds of butter each, in a year, besides the new milk and cream used in a family of fourteen persons. His cows are well-shaped, hardy, and thrifty, but have not the extreme tendency to fatten which would injure or destroy their value for the dairy. He has a cow which is half Alderney and half Holstein, which has given 15¾ pounds of butter a week, on grass feed.

SWINE.—A variety called the "Chester county breed" prevails in some neighborhoods. It is a white hog, of enormous frame, loosely put together, a thick, heavy *flop* ear, large tail, too heavy for the animal to curl, and a general character indicating coarse quality of flesh. The animal is not destitute of fattening properties, and at eighteen to twenty-four months old, not unfrequently attains the weight of 600 pounds, dressed. But it is often the case that their disproportion and looseness of structure is such that they break down, and become almost totally helpless, with not more than two-thirds this weight. The variety appeared to be losing favor with many farmers. The Berkshire, and what appears to be a cross of the Leicester breed, under the name of the "Dutchess county hog," was seen on several farms. Either of the latter is far preferable to the former.

SHEEP.—Comparatively few sheep are kept in the section we passed through, the farmers in general deeming them less profitable than cows. Those which are kept, are of the breeds adapted to mutton. The Leicesters, Cotswolds, and South-Downs, are occasionally met. Mr. AARON CLEMENT, of Philapelphia, exhibited some good specimens of these. The Broad-tailed African sheep were introduced into Pennsylvania from Tunis, by Col. PICKERING, while Secretary of State, upwards of sixty years ago. Traces of their blood are still distinctly visible in the sheep of this section. They were a hardy race, and the first crosses with the common stock were thought to be particularly valuable as early lambs for market. But the objections to the stock were, that they were not prolific, and that the fat tended to accumulate chiefly on the outside of the rump, and more than any where else, on the tail, which, in the full bloods, sometimes became eight or ten inches wide, and weighed ten pounds or upwards.

It is reasonable to believe that in the vicinity of a large city, like that of Philadelphia, there are farms on which mutton might be fattened to good advantage; and with the facilities of communication by railroad, which are now becoming extensive in Pennsylvania, an increased attention will be profitably devoted to this branch of business.

THE SHEPHERD'S DOG.—Without the shepherd's dog the whole of the mountainous land in Scotland would not be worth sixpence. It would require more hands to manage a flock of sheep, gather them from the hills, force them into houses and folds, and drive them to markets, than the profits of the whole stock would be capable of maintaining.

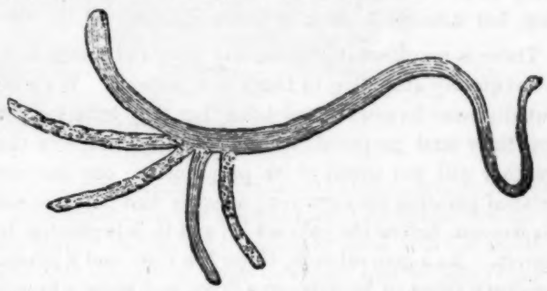
Singular Disease in Cattle.

Editors Cultivator—Having met with a disease in calves and young cattle, which I have not heard spoken of, or seen described in any farming work, I have concluded to send you a description of it, in hopes some of your subscribers may give us some further information on its cause, cure, or a prevention. About a year from last August, three of my Ayrshires calves, some four or five months old, that had been weaned from the cows and were kept in a pasture lot adjoining the farm-house and fed on milk twice a day, were attacked, apparently, with cold, accompanied by a bad cough. I physicked them with sulphur, shifted them in a lot of fine young grass, with a shed for them to go under during the heat of the day or when it rained, gave them fresh milk or water to drink as they choose; but all to no effect, as they continued to cough as much as ever, and two of them became very thin; the other appeared to have a good appetite and kept fat. One of the lean ones died. I had it opened, and in its bronchus or windpipe, I found nearly half a pint of thin whiteworms, somewhat similar to the gap-worms in fowls, having five instead of two trunks, much longer bodies, about the thickness of a gap-worm, but white instead of being red as the gap-worm is. From the position in which I found them, they appeared to have collected together in a mass or bunch, and to have strangled the animal. They were perfectly alive when I examined the calf some hours after its death, and continued to move about while I was examining them under the miscroscope. With one of the remaining calves I attempted to remove or loosen the worms, as you do the gap-worms in poultry, but neither I nor my assistant succeeded in getting the tongue far enough out to see the aperture of the windpipe, so we gave it up; but a butcher afterwards told me there would have been no difficulty in doing it, if we had pulled the tongue out on one side of the mouth, and then the bronchus or windpipe might have been cleaned out with a large feather. The two other calves died about a week after the first, on the same night, and upon examining them, I found about the same quanty of similar worms in the bronchus of the lean one. The fat one had very few worms in its bronchus, but upon examining its lungs I found quite a number throughout the air vessels of the lungs.

I have before this lost cattle, I have no doubt, with the same disease, from the cough and other symtoms being precisely similar, but considering it in them an inflammation of the lungs, I never thought of examining their bronchus or windpipes, but being in the habit of operating on poultry for the gaps, I thought this might be somewhat of a similar disease, and was thereby led to the examination.

The only manner in which I could account for the disease in these calves, was from their having inhaled some minute insects which had been bred in the milk, which was left standing in the sun, and that the eggs of these animals had turned into these worms, as I had frequently observed myriads of almost imperceptible flies hovering over the tub in which the milk was poured for the calves. So this summer I raised four calves in the same lot, but took the precaution to have them fed from pails which were removed and washed out as soon as the calves had fed, and they had nothing of the gap or bronchial disease.

In page 305 of the 1st. vol. of your new series of the Cultivator, you published an article on the subject of gapes in chickens, &c., since which time I have practiced the mode there described, on chickens, turkeys, and goslings, with perfect success, and am of opinion, that if you make use of a feather of an appropriate size, to the bird to be operated on, and go leisurely and carefully to work, you will never fail to cure the fowl. With some of my goslings they were so large that I had to splice two quills together, making them over a foot long, to enable me to reach the bottom af the windpipe, and I then removed twelve large gap-worms from each of them. My ducks have never had the gapes; whether ducks are obnoxions to that disease, I cannot say.



Herewith I send you a drawing of the bronchial worm taken from the calf's windpipe, as it appears when magnified; three of the trunks or tubes are filled with eggs, similar to the female gap-worm. I remain yours, &c
Charles F. Morton. *Mortonville, Orange Co., N. Y., Nov.* 26, 1851.

Agricultural Economy.

Do our agriculturists study economy as attentively as they ought to do? I do not mean economy in the ordinary sense—in expenditures, saving every *cent* they can. and stinting *supplies*. I mean the economy of management. True economy adapts means to ends, applying no more or less of the one than is necessary for the completion of the other. For example, ten acres of land well prepared and thoroughly tilled, will produce five hundred bushels of corn. The economical farmer, therefore, who intends to produce that amount of corn, will not use twenty acres of poorly prepared, and badly tilled land, to accomplish it; because the same amount of crop will require more labor on twenty acres, in plowing and tilling, however imperfectly performed, than it will on ten acres, however well it shall be tilled and prepared. Again, if a farmer have an hundred loads of manure only, if he study economy, he will rather apply it all to a small piece of land, and thus manure it well, than to a large piece, and thus manure it very imperfectly; because, in the former case, it will require less labor to produce a given amount of crop, than in the latter. Again, a farmer that has a given amount of manure, will apply it in sufficient quantity to as much land only as it will supply with sufficient fertilization, and thus, by annually improving a small piece, at length render the whole fertile. So, also, the owner of a large tract of land will attempt to cultivate only just so much of it as

his forces can cultivate thoroughly. Two farmers, each with the same number of acres, and the same amount of labor, shall show very different balance sheets at the end of the year, the one footing up $1,000 profits, and the other $500, simply because the one studies economy in the application of means to ends, and the other takes no thought of the matter.

One great fault of many farmers may be found in a peculiar passion for large fields. How much wheat will you put in this fall? 250 acres, 500 acres, &c. The question should be, how much wheat will you *produce* this year, and the passion should be for the large yield, instead of the large surface seeded. The New-England farmers differ from our middle and northern state farmers in this. The former study economy in all things. They cultivate no more land than they can cultivate well. They do not weaken the result of their forces by diffusion, but strengthen them by concentration.

There is much want of economy also, and much loss, in not closely attending to times and seasons. We continually hear farmers complaining that they have not yet got their land prepared for fall seeding, and now the weather will not admit of its preparation; one has not finished planting his corn yet; another had not secured his harvest before the rain set in, and it is beginning to sprout. As a general rule, there is a time and a season for every thing to be done on a farm, and those who are late in any thing, must expect to suffer the consequences. To study the economy of times and seasons, is as much a part of the science of agriculture, as is the proper adaptation of means to ends; and both are as necessary to success in farming, as a correct application of skill in mechanics is necessary to success in any mechanical employment. Many of our farmers seem to sleep all winter, wake up in the spring, late or early, *as it happens*, and go to work when the humor moves them, without system or forethought, go ahead as chance may lead through the summer, and in the fall grumble at the failure of their crops from unfavorable seasons. If any one takes this to himself, let him,—I mean it for *him*.

AN OBSERVER.

Harvesting Corn.

EDS. CULTIVATOR—On looking over the pages of the Cultivator for September, I noticed an article on "Harvesting Indian Corn." The subject is one of great importance, and comparatively little understood.

With a view to more light, I have conducted a few experiments with some degree of care and accuracy, although upon a limited scale. Fearing some of the numerous young farmers who look to the Cultivator for advice, may be led to the belief that Mr. OLIVER MOORE, in an article in the October No., has proved that corn left to ripen in a natural, or uncut state, produced the greatest weight of grain, I send you the result of my experiments thus far, and intend to pursue them farther as opportunity presents.

About the middle of September, when the corn had done growing, and the ends and edges of the leaves began to turn brown, I selected a place of uniform appearance in soil, size, and ripeness. I then proceeded to cut close to the ground across five rows, taking two hills from each, and placing them together in an upright position, binding the tops tightly. Next, topped, or cut the stalks from an equal number of hills in the same rows. And lastly, left two hills natural, in each of the same rows, making thirty hills in all, or ten of each kind. On the 7th of November I husked and carefully weighed each parcel, separately, with the following result:

10 hills—cut close to ground, ...	13 lbs. 13 oz.
10 hills—stalks cut off above the ear, ...	13 lbs. 6 oz.
10 hills—left natural, ...	12 lbs. 13 oz.

This experiment was made in 1849, and in the following autumn I made one similar in every respect, except the number of hills, which were double the former, and the time of cutting being the 10th of September. Time of husking being also about twenty days earlier. Result as follows:

20 hills—cut close to ground, ...	29 lbs. 14 oz
20 hills—stalks topped, ...	26 lbs.
20 hills—left natural	25 lbs.

I find the following note in my experiment book, made at the time of husking—"Again, as last year, the corn cut and put in stook, is much the soundest, and in the best condition."

It will be perceived that the experiment of Mr. MOORE and the above, do not agree—he having arrived at the conclusion that "the most corn will be produced by letting the corn ripen in the order of nature." While I am about ready to conclude that the theory of Liebig is correct, that "all plants left in a natural state to mature their seed, give back to the earth in the form of excrementitious matter, a portion of their seed-forming substance, thereby diminishing the weight of the grain or seed," yet if the stalk be severed before the downward flow of this substance shall have commenced, it must be retained either in the stalk or the grain, or perhaps in both.

The above experiments show clearly a greater weight of grain on cutting near the ground, in the first instance, of nearly half a pound, over that topped, and just a pound more than that left natural. In the second, only two ounces short of four pounds over that topped, and two ounces short of five pounds over that left natural. That left in a natural state weighing least each time. It is my intention to continue the experiment farther, and double the number of hills each time. I should have done so this fall, had I not been absent during the corn cutting season. G. W. COFFIN. *Amenia, Nov.* 3, 1851.

On the Culture of the Onion.

EDS. CULTIVATOR—As I have devoted some of my time to the cultivation of the onion, this last season, I have thought it to be an act of kindness to give your numerous readers a short sketch of the success I had in raising them. I made choice of a piece of wheat stubble in the spring, and hauled on leached ashes about two inches thick. Then I hauled on barn-yard manure, at the rate of 40 loads to the acre. After this I plowed it about eight inches deep, about the last week in May. On the second day of June, after I had it leveled off pretty well, I made shallow drills with the hoe, one foot apart, and drilled the seed therein, and covered it with a rake. About two weeks after the plants were up, I thinned them out to six inches from plant to plant. Shortly after I weeded them, and put on rotted and half-rotted

manure, as a top-dressing, between the plants and between the rows, to the depth of about one inch. I weeded them once more after the top-dressing was put on. The onions grew to the astonishment of all those who cast their eyes upon them, and turned out at the rate of two hundred bushels per acre, some of which measured fourteen inches in circumference. They sell for six shillings per bushel, which you see would net $50 from one acre. JOHN DIEHL. *Bristolville, O., Oct.* 25, 1851.

Ornamental Poultry.

In many situations there is an object distinct from pecuniary profit, in keeping a variety of poultry. This object is the ornament they add to the premises, and the pleasant interest and instruction which their characters and habits afford. The country-seat of the gentleman of wealth, cannot be considered complete without this appendage. One reason why it is so seldom found in this country is, probably, the want of proper information in regard to the management of this kind of stock. A leading cause of the disappointment and failure of those who have attempted to form collections, has been the difficulty of preserving the health of the birds.

The writer had lately the opportunity of examining the poultry-establishment of Mr. JOHN GILES, of Providence, R. I., a few remarks in regard to which, as it is one of the most noted in the country, may benefit the public.

We noticed in Mr. GILES' yards, the following species and varieties:

Of the *Gallus genus*, (fowls,)—Cochin-China, Black Spanish, Surrey, Speckled Dorking, White Dorking, Black Bantam, White Silk China Bantam, Sebright Bantam. *Pheasants*—Silver, Golden, Ring-necked, White, Bohemian. *Geese*—Indian, or Chinese, Canadian, or wild, Egyptian, Bernacle, Brent, Snow-goose. *Ducks*—Aylesbury, Rouen, White top-knot, wild Mallard, wild Black, Gadwall, Red-headed Pochard, Tufted Pochard, Pintail, Whistling, Wood, or Summer, Guernsey Widgeon, Summer Teal, Penguin. *Pigeons*—ten varieties. Partridge, (Ruffed Grouse,) and Quail.

Altogether, it is the most beautiful collection we have ever seen. Particularly worthy of note, was the healthfulness of the stock, their quietude, and evident enjoyment—indicating that all the requisites of their nature were provided for them.

The great secret of Mr. GILES' success is care. Strict attention is paid that each fowl is placed in a situation adapted to its wants. If the weather is too hot, it can resort to cool shades; if too cold, it can find shelter in apartments which furnish a congenial temperature. The aquatic tribes can gratify their instinct and brighten their plumage by a douse in the purest water; and the half-reclaimed land species can enjoy the secrecy afforded by shrubbery and trees.

Two great points in the general management, are *cleanliness and wholesome air*. To secure these, all the apartments are thoroughly plastered inside, and are provided with openings through the roof (which can be closed at pleasure) for ventilation. The bottom is earth, the surface of which is frequently renewed by a fresh layer. The manure is swept from each apartment every day, and a thorough airing is given whenever the weather will justify it, which prevents the origination of noxious gases. The plastering prevents the harboring of lice, which are frequently so injurious to fowls; but should it be necessary, a thorough fumigation of the apartments, with sulphur or tobacco, can be given.

With such conveniences and precautions, Mr. GILES has been little troubled with diseases among his fowls. That malignant and contagious disease called roup, has sometimes made its appearance among them, having been contracted by specimens taken to poultry exhibitions, or from diseased subjects being inadvertently introduced into the yard. Fowls that are attacked with roup, should at once be taken away from others. The head should be frequently washed with castile soap-suds, and cathartic medicines, as castor oil, and sulphur, have been administered with apparent success.

The inner yard for the poultry, contains about a quar.

ter of an acre, of which thirty feet square is water. In addition to this, most of the fowls have a range in adjoining enclosures, containing from two to three acres. The water for the goose and duck-pond is supplied by a pump, worked by a steam engine, which furnishes the motive power for a worsted factory belonging to Mr. GILES. The pond is walled around the sides, and the ground for several feet from the water is paved, which prevents the formation of mud, and keeps the pond and the fowls clean. The water is five feet deep, and gold-fish are bred in it in great numbers.

The mode of feeding adopted by Mr. GILES, is to give, on alternate days, Indian corn, buckwheat, millet, hempseed, and barley. Occasionally the fowls are fed with equal parts of corn-meal and shorts, with a little sulphur mixed.

Mr. GILES has taken great pains in obtaining his stock, and is very particular in regard to the purity of the different kinds. Many of his choicest specimens were obtained direct from Messrs. BAKER, of London, who are probably the most noted breeders and dealers in ornamental poultry in Europe.

The Boston Poultry Show.

The annual exhibition of the New-England Society for the Improvement of Poultry, took place at Boston on the 11th to the 14th of November last. The show was much inferior in respect to numbers, to the shows of the two previous years, and the number of varieties was also somewhat less than on those occasions. The whole number of specimens exhibited, is stated by the secretary to have been 2,458. Of the Gallus genus, the large Asiatic fowls, as heretofore, took the lead. This tribe has a general tendency to coarseness and too much offal; but the specimens exhibited, showed considerable improvement in symmetry over those presented at the former shows. It is practicable to produce a good stock from this tribe, by careful selection for several generations. The (white) fowls exhibited by A. A. Andrews and Dr. E. Wight, Boston, those by A. White, East-Randolph, and those of the "Forbes stock" exhibited by Mr. Brackett, Newton, showed that an important advance has already been made in this direction.

Of Spanish fowls, some really splendid specimens were exhibited by J. P. Childs, of Woonsocket, R. I. The history of this stock, as given by Mr. C. is, that they were brought from near Bristol, England, by John Fricker, in 1850, who stated that he knew them to have been bred for more than fifty years, without crossing. They are beautiful in form, and of larger size, in general, than any Spanish fowls we have before seen—the hens weighing upwards of six pounds each, and the cocks large in proportion.

Very handsome Dorkings were shown by Dr. Wight and A. A. Andrews, Boston; Guelderlands,—a good sized, raven-black fowl, destitute of comb,—by H. L. Devereux, Boston; Bolton Grays, or Creoles, by George Dorr, Dorchester, and John F. Brown, Woonsocket, R. I.; good game fowls by O. and S. Southwick, Danvers, O. M. Stacy, and E. Varney, Lynn; Golden Polands (or top-knots) by W. B. Parsons, Rockport—very handsome; Sebright Bantams —good except too large in size for that variety,—by Chas. Sampson, Boston.

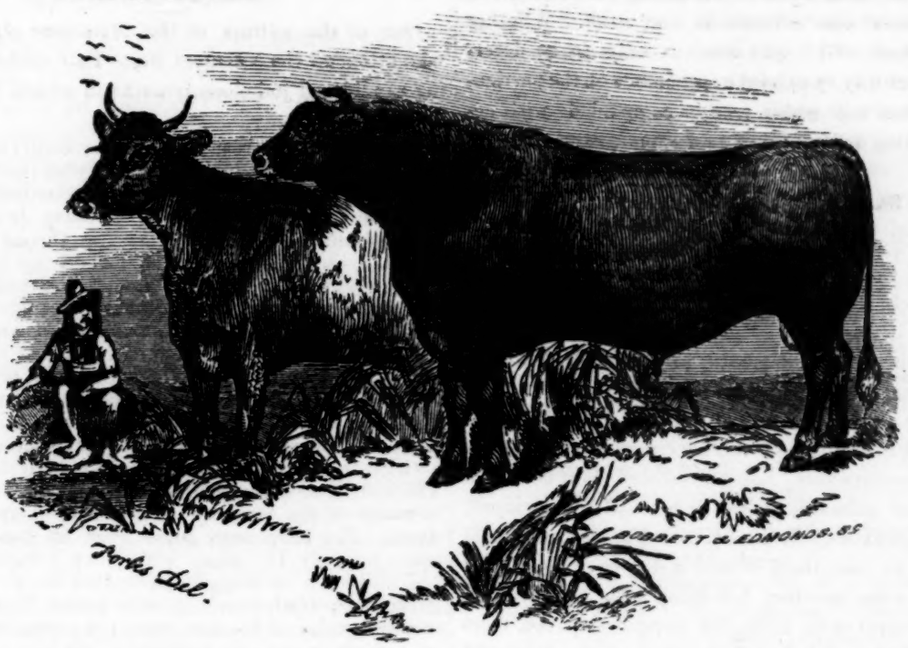
There were good specimens of turkeys, geese, (the Bremen best and most numerous,) ducks, and pigeons; but nothing particularly rare was noted in these classes.

Long-Island Lands.

In the central part of Long-Island, there are large tracts of land which have never been brought into cultivation. Public attention has lately been turned considerably towards these lands, through the influence of Dr. E. F. PECK, of Brooklyn, who is the proprietor of several thousand acres, situated in the vicinity of Lakeville, on the L. I. rail-road.

These tracts have formerly been deemed of very low value; but no reason exists why they are not naturally as valuable for farming purposes as the coast lands which lie on each side of them, and only four or five miles distant, at Smithtown and Islip, where farms are held at a hundred dollars an acre. The soil is of similar composition, and the indigenous vegetation was the same. The writer speaks from personal observation, having examined the lands in November last. If it is claimed that the shore lands have an advantage in respect to the facilities for obtaining materials, (as fish, sea-weed, &c.) for manure, it may be replied that this is more than counterbalanced by the advantage of being near the rail-road, which is the main avenue of communication. In fact the only real or apparent advantage in the former case, is that resulting from the different social circumstances of the two neighborhoods. On the coast are villages, with the various appurtenances of old settlements, while on the Lakeville tract, settlement has but just commenced. But it is probable that this state of things will continue long, as, in addition to equal agricultural advantages, the Lakeville lands present good inducements for city people to furnish themselves with country residences. They can be reached in about two hours from New-York or Brooklyn. The railroad divides the tract nearly in the centre, north and south, and it is also nearly in the centre of the island, in the same direction. Near this central line is an elevated ridge, which forms the height of land between the north and south coasts. The top of a dwelling of two stories high, placed on this ridge, would command a view of both shores,—either of which could be reached in an easy drive of five miles. Near the ridge alluded to, and within a mile and a-half of the railroad station at Lakeville, is Ronkonkoma lake, a beautiful sheet of water, nearly circular in form, and about a mile across. The water is perfectly clear and sweet, and abounds with fish, (red perch); the bottom is hard and pebbly; the shores, free from marshes, gently shelving to the water, with a beach, which, with but little labor, would form one of the pleasantest walks, or carriage drives, entirely round the lake. The level of the lake is very uniform, being but little affected by rain or drouth.

Few sections can boast of such attractive sites for rural dwellings, as the vicinity of this lake affords. There is sufficient unevenness in the surface of the ground, to admit of much beauty being imparted to the landscape by tasteful cultivation and improvement. The healthfulness of the location is undoubted, as the longevity of the inhabitants of Long-Island is proverbial; and when a beginning is once made, and this cannot be long deferred, which shall constitute the nucleus of a good neighborhood, these advantages will be highly appreciated.



Hungarian bull and cow, the property of R. L. Colt, Paterson, N. J.,—received premiums in the class of foreign stock at the show of the N. Y. State Ag. Soc., 1851. These cattle evidently belong to a very distinct breed—we have seen none which appeared to be more so—and have qualities which would render them desirable in certain locations. Their introduction to this country is an experiment, for which Mr. Colt is entitled to credit. They are hardy, and show much fattening property. The figures herewith given do not give so favorable an impression in regard to the animals, as they are entitled to. That of the bull is fair, but the cow has a rough wild expression which does not belong to her.

Using Bones for Manure.

Eds. Cultivator—Can you, or any of your correspondents tell us how to use bones and horns to the best advantage, in the absence of all mills for grinding them? D. J. Beardsley. *Portage co., Ohio, Nov.* 1851.

Bones are used in three ways—1st. By cracking them with a sledge into fragments from half an inch to an inch in length; 2d. By grinding into powder; and 3d. By dissolving in sulphuric acid. The first forms a durable manure, but as the fragments dissolve slowly, it is the least powerful of the three. The latter, by completely dissolving the bones, renders the same amount several times more active and powerful than even by grinding to powder.

On page 52 of the Cultivator for 1851, our correspondent will find a description of the mode of dissolving bones by sulphuric acid, bearing in mind that as great heat is produced by the mixing of the acid with water, it must be added gradually by successive portions at intervals of some hours. The acid, bought by the carboy (or large bottles) will cost from 2½ to 3 cents per pound, the expense of which will be well remunerated by the great fertilizing power of the manure. But in places quite remote from large cities, it may be hard to obtain; in such cases, one of the following *new* methods may be tried, and may by experience prove valuable:—

The first is *steaming*, as described by Prof. Norton on page 270 of our last volume, and which is probably the cheapest mode for dissolving large quantities. Prof. Norton has since informed us that sufficient heat cannot be obtained with less than a pressure of 30 lbs. on the square inch, or two atmospheres.

The second mode, is by *fermentation*. This is described on page 83 of our last volume. It has as yet been but little tried, but if it can be successfully reduced to practice, it may possibly prove the most convenient and cheap mode of reducing them to powder, under ordinary circumstances.

Levi Bartlett, of Warner, N. H., describes in the *Journal of Agriculture*, various modes by which he has prepared bones for manure. He has come to the conclusion that the best way is to boil the bones for a short time, and while hot mix them with unleached ashes, the whole to be covered with loam or muck to retain the heat and absorb the ammonia which will be set free. In a few months, the bones would be decomposed.

Potash for Manure.

"Will you, or some of your correspondents inform us if potash will not answer the place of ashes in compost, if rightly applied—and if it will quit cost?" P. Pratt. *Deep River, Conn., Nov.* 14.

Potash would undoubtedly form a valuable constituent in composts; but where ashes can be had, they are cheaper and better, because the cost of extracting the potash separately is avoided; and better, because ashes contain several other valuable ingredients besides potash, such for instance as lime, gypsum, and phosphates. The relative cost of ashes and potash may be ascertained to some degree of accuracy by determining first the cost of a pound of ashes, and a pound of potash, and

then finding the proportion in the ashes, which in beech and oak is about one seventh to one tenth. Whether ashes or potash will "quit cost" is only to be determined satisfactorily by careful experiments on the particular locality and soil under trial, accompanied with accurate weighing and measuring for some years.

Shelter for Fattening Stock.

At a late discussion by the members of the Highland Agricultural Society, in reference to the winter management of stock designed for slaughter, all the speakers agreed that it was most economical to shelter the animals—that this mode effected a saving of food, and at the same time there was a greater gain of meat. The extra gain is doubtless owing to the food which would be consumed in keeping up the necessary warmth of the animal under exposure, being converted into flesh and fat, when the animal is placed in a genial temperature. One of the speakers, who had fattened many cattle, said his rule was to keep them in such a degree of heat, that their skins when touched felt damp with perspiration, but not so warm as to make the perspiration run from them. A similar rule has been adopted by successful feeders in this country.

Crushing Grain for Work-Horses.

Owners of work-horses are too regardless of the advantages of grinding or crushing the grain fed to them. They do not consider that the expenditure of muscular strength by the animal, in grinding grain with its jaws, is as great a waste of its energies as an equal outlay of strength in any other way; and that besides this, there is much waste of grain from its being imperfectly digested. When the animal is fatigued, he masticates his grain imperfectly, and it often passes through the intestines with so little change that it germinates and grows well. By crushing the grain, this loss would be saved. Another advantage would be, that different kinds of grain, as Indian corn and oats, when ground, could be mixed together, and incorporated with cut straw or hay—experience having shown that this is the most economical way of feeding. Where power mills are not within convenient distance, mills which can be worked by horse-power, or by hand, may be used. Sinclair's will answer well; a horse will grind four to six bushels an hour with it, and it can be worked with two men. It costs $35.

Salting Pork for Summer Use.

EDS. CULTIVATOR—Last fall, I saw in some paper, a recommendation which struck me so forcibly as being good, that I tried the experiment, and with perfect success, and I would recommend that you publish it in the Cultivator. It was as follows:—In packing pork for summer use, add to each layer of pork, a sprinkling of fine ground black pepper. I put about two pounds pepper to a barrel of side pork, containing about 400 pounds. I have been a house-keeper for nearly forty years, and I can truly say that I never had pork keep so sweet and fine. We are now using old pork, as good as if it had not been put up over a month. O. F. MARSHALL. *Wheeler, N. Y., Nov.* 19, 1851.

Morgan Horses.

One of the editors of the *American Agriculturist*, who attended the Vermont State Fair, makes the following candid and judicious remarks in regard to this stock of horses:

"One of our correspondents has recently characterised the Morgan horse a humbug. We wish there were more such agricultural humbugs. He has equally failed in characterising this fine family of horse flesh. He has evidently drawn his ideas from the throng of miscellaneous brutes that have been picked up by jockeys of every hue, and palmed off among the unsophisticated wherever such customers could be found. Of course, there is no such thing as a *pure* Morgan horse, as their origin dates from a single animal, and less than 60 years ago. But they have had about the same period to form a peculiar race as the Ayrshire cattle, and their success is fully equal. They are not homogeneous in form, appearance, nor character; but they are enough so to be entitled to the possession of a distinctive family name. There are wide departures from their general resemblance, in many of the progeny that are bred from uncouth dams. We have seen some over 16 hands high, and some scarcely 12; some with steep rumps, big heads, and dull eyes, or sluggish gaits, that were *called* Morgans, and probably enough were gotten by them, but the characteristics of the dam were too potent to be subdued by a single cross. In conclusion, we are compelled to say, that the *true type* of the Morgan horse is as desirable an animal for the road, whether our taste, or convenience, or pockets are concerned, as we have ever seen in harness; and success say we to the Vermont enterprise, of rearing and maintaining a new and highly creditable family of horses."

"Peach Leather," and "Pumpkin Pap."

ELIZABETH DIEHL, Bristolville, Ohio, sends us the following recipes:

PEACH LEATHER.—Take good ripe peaches—pare and cut them in two. Then with a case knife, spread them on a clean smooth board, which should first be rubbed with butter to prevent the fruit from adhering. They should be dried in the sun or a dry-house. Then with your knife, pare them off the board and roll them into rolls for eating in the winter. In this way they may be kept from one generation to another.

PUMPKIN PAP.—I take a good ripe pumpkin, cut it into strips about an inch thick—cut off the rind, pare out the inside, and cut up in pieces about an inch square. Then, after having them washed in clean water, I throw them into my dinner pot with water enough to pass over them, and boil till done. Then I take them off the fire and mash them fine,—put in a good sized table spoonful of salt to a common sized pumpkin; and mix up a large tea-cup full of wheat flour with sweet milk enough to reduce it to the consistency of thick cream. Then I stir it in with the pumpkin, hang it over the fire, and let it simmer about 15 or 20 minutes. While it is thus boiling, I fry a small handful of crumbs of bread, with a lump of butter about the size of a hen's egg, till brown. I then stir it in with the pumpkins, and it is ready to be served on the table.

CULTIVATING FRUIT TREES.—The Prairie Farmer in speaking of the injury to young orchards occasioned by the common practice of sowing them to grain and seeding to grass, makes this fair comparison: "Small grains in the orchard, are worse than red pepper in lemonade. So we think." He might have added that they are about as nourishing to fruit trees, as ten-penny nails would be to a horse, or a Scotch-snuff pudding to young children.

Agricultural Societies.

NEW-YORK STATE.—It should be remembered that the annual meeting, for the election of officers, &c., is to be held at the Capitol on Wednesday the 21st of this month. At the same time there will be an exhibition of Fruits at the Society's Rooms, and an exhibition of grain and fat cattle, sheep, swine, poultry, &c., at Gallup's Hotel, Washington street.

NIAGARA.—We are indebted to A. ROBINSON, President of the Society, for the Report of its doings the past year, from which we infer that it is in a flourishing condition. The officers elect, for 1852, are Morgan Johnson, Pres't.—Moses C. Crawsey, Lockport, and J. W. Babcock, Somerset, V. Pres'ts.—B. F. Wilson, Wilson, Sec'y.—John Onderdonk, Wilson, Treasurer.

MUSKINGHAM Co., O.—We have received the annual Report of this Society for 1851, from J. L. Cox, Esq., Zanesville. Their exhibition in October, appears to have been very successful. The following officers were elected for the current year:—Cornelius Springer, Pres't.—J. Dillon, V. Pres't.—Jas. L. Cox, Treas., and JOHN BARNARD, Sec'y. We believe these officers reside at Zanesville.

ANSWERS TO INQUIRIES.

DISEASE IN CALVES.—C. E. H., Monroe, Ct. We cannot say, from your description, what is the disease with which your calves are attacked. The stiffness of the hind legs may be caused by constipation of the bowels. A strict observance of the animal would determine whether the affection rose from this cause, and if it did, give castor oil or salts till a copious discharge is produced. But the stiffness may be simply rheumatism. In this case give the animal, instantly, warm shelter, and warm gruel seasoned highly with ginger. Rub the loins with some stimulating liniment—as a mixture of alcohol, spirits of turpentine and laudanum.

SEED-PLANTERS.—A. B., Bucks county, Pa. "Can any one machine be had which will answer for planting all kinds of seeds, from carrots and onions, to beans and corn? Will any one plant corn in rows both ways?" Emery's seed-planter is provided with apparatus by which the small seeds you mention may be deposited in the desired quantity, and at the proper intervals, and by the necessary variation will drop the larger seeds with equal exatness—the change of gear admitting the seed to be dropped at spaces of four inches to four feet. There is no drill and can be none, which can be depended on to plant in rows both ways. Even if each row were commenced precisely on the same line, and the seed was dropped at exactly the distance, the inequalities in the surface of the ground, would prevent the hills being in regular squares.

PHOSPHATE OF LIME.—R. S., New-York. "What have been the results from the use of phosphate of lime in this country?" We have known but few trials of this substance, and those were not conducted in such a way as to teach reliable inferences. It would be useful to the public to learn the results of any trials which have been made with phosphate of lime, in any form. It is the rock phosphate that is referred to—not bones—but it is desirable to learn their comparative effects.

POTATOES FROM SEED.—M. L., Hartford, Ct. "Have potatoes raised from seed shown any superiority in escaping the rot, or disease?" There is no evidence that potatoes raised from seed have in general escaped the rot better than others. Some varieties have always been more hardy than others, and have been more exempt from disease. The advantage of raising from seed is, that varieties are multiplied, and by trying them, the hardiest and best may be selected for general propagation. A great proportion of those lately produced from seed, have shown as strong a tendency to disease as the old varieties; a few appear to have less of that tendency, but not *because* they were raised from seed, and, besides, they require to be further tried before their constitution can be fully pronounced on.

NEW PUBLICATIONS.

REPORT OF THE COMMISSIONER OF PATENTS FOR THE YEAR 1850: PART II. AGRICULTURE. This volume comprises near 600 pages of matter in reference to the agricultural products of this country, and the means of improving and increasing them. It contains several elaborate and able articles, besides many brief communications of interest and value. Among the former we notice a paper on "The Study of Soils," by Dr. LEE, and one on "Fruit Culture," by J. J. THOMAS. The volume also contains much statistical information in regard to crops, fisheries, manufactures, foreign and domestic commerce, &c. We are sorry to see that the same objections which have heretofore been made in reference to the mechanical execution of the work, the quality of the paper, and the arrangement of the matter, apply to this volume. They are objections for which no sufficient excuse can be given.

The December No. of HARPER'S MAGAZINE has the portrait and political history of KOSSUTH—a name that is on the lips of every one, and whose cause is exciting a deep sympathy in every heart that desires freedom for itself and the oppressed. The impartial record of news, both American and Foreign, marks this admirable periodical, and its style of execution commends it to the favorable notice of those who wish to adorn their tables as well as inform their minds.

THE INTERNATIONAL for December contains a rare collection of historical and biograhical information. Among the most instructive articles are Nauvoo and Deseret, an account of the Mormon impostor; Windsor Castle and its associations, and Calcutta, social, industrial, and political. The portrait and brief notice of the life of WILLIAM CULLEN BRYANT, adds another to the valuable list of American authors that has embellished and contributed to the popularity of former numbers.

THE AMERICAN VETERINARY JOURNAL.—We have received several numbers of a monthly publication with this title, edited by GEO. H. DADD, M. D., Boston. Dr. D. is well known to the public as author of several valuable works on the treatment of the diseases of domestic animals, and enjoys a high reputation as a veterinary surgeon. The Journal will be the medium of disseminating much useful information. Terms, one dollar a year in advance.

NOTES FOR THE MONTH.

IN entering upon the new year, we most cordially tender the compliments of the season to all our readers and friends. We congratulate them upon the rich blessings of the year that is past, as well as upon the fair prospects which the new year opens before them. At no time has the profession of Agriculture held so high a rank in the public estimation, as now; and for the reason that farmers are every year becoming more intelligent and consequently more respected and powerful. We wish we could infuse into the mind of every working farmer, a just view of his responsibilities, and the dignity of his calling. Too many farmers, as well as their wives, forget the true respectability and independence of their pursuit, and instead of seeking to make their rural homes the seat of refinement and happiness, seem to consider every other sphere of life, more desirable than their own. This should not be so, and would not, if parents would train up their sons and daughters for farmers and farmers' wives, instead of impressing them with the idea that the labors of the husbandman and his family are only proper to the ox and the blockhead. A change, in this respect, is slowly moving onward, and we think we see a brighter day dawning—a day when our farmers, having become wiser and better men, shall teach their children both by precept and example, that there is no home capable of higher refinement and purer enjoyment than that of the American farmer. Education and intelligence,—a conviction that knowledge, in agriculture as in everything else, is power,—will effect the desired reform. Other professions, though few in numbers comparatively, have, and do now in a great measure wield the political and social power of this country. And why? Simply because they are educated for their calling. Not so with the farmer. Time was when it was not supposed that MIND was necessary to him. All he had to do, was to "dig and delve." But the truth is beginning to be felt, that agriculture affords as large and useful a scope for talent as any industrial pursuit, and that all that is necessary to elevate the rural population, and give to them the power which, from their numbers, they should possess, is to give them the same advantages of education which are bestowed upon those destined to the professions. Let farmers, instead of sending their sons to the shop or the office, educate them for the farm, and we shall not much longer hear complaints that the lawyers and doctors possess all the influence in our social and political circles. Improve the mind of the farmer—give him the power to express his thoughts, and we have no fears but what he will take his true position in society.

To effect this object,—to improve the mind, to elevate the character, and refine the taste of our rural population, is one of the prominent aims of THE CULTIVATOR. It will avail but little if we show the farmer how to increase his profits, if there is not a corresponding elevation of the aims and purposes of his life—if he does not seek, while his profits are enlarged, to increase the facilities for the mental improvement of his family, and to cast around his homestead those adornments which are, happily, within the reach of all our farmers, and which serve in so high a degree to strengthen the attachment of both parents and children to their homes. The winter evenings are the time to think of these things,—the time to read, reflect, and to devise plans to be carried into effect, when "the time of the singing of birds" shall again come round; and if the pages of the Cultivator shall be instrumental in inducing the formation of such plans as will lead to a more just appreciation of the advantages of their position,—to higher intellectual enjoyment, as well as to more satisfaction and profit in their labors, we shall have accomplished a most laudable object.

ACKNOWLEDGMENTS.—Letters from correspondents have been received during the past month, from D. J. Beardsley, John Diehl, Elizabeth Diehl, Charles F. Morton, Hon. F. Holbrook, Geo. Jaques, Dr. G. B. Smith, W. G. Edmundson, L. Durand, S. B. Bulkeley, Prof. J. P. Norton, E. Vail, J. Wilkinson.

BOOKS, PAMPHLETS, &c., have been received as follows:—The American Muck Book, by D. J. BROWNE, and the Ladies' Guide, or Skillful House-wife, by Mrs. L. G. ABELL, from the publisher, C. M. SAXTON, New-York.——Illustrated Agriculturist's Almanac, for 1852, from J. G. Reed, publisher, New-York.——Saxton's American Farmer's Almanac for 1852, from C. M. SAXTON, New-York.

PRESSING HAY.—A correspondent solicits information on the best mode of pressing hay—the expense of the press, the weight of the bales, the article used for securing the bales, &c. &c. Will some one describe the most improved mode?

STALL FEEDING.—A correspondent in Maryland, E. L., says—"I have been much pleased with the remarks of your correspondent, J. JOHNSTON, on stall-feeding cattle, and would be glad if he would give some farther particulars, as to kind and quantity of feed, size of stalls, and whether he halters his cattle, or has gates between tween them. I sometimes do a little at this business, and would like do more as my land improves, if I could make it pay at the price of grain generally in this vicinity." Will our friend JOHNSTON furnish the information asked for?

THE STONE-HILL POTATO.—In our November number, p. 379, we acknowledged the receipt of a fine sample of potato, to which the originator had given this name. We have since received a barrel of them from Mr. BULKELEY, who gives us the following history of them. In the spring of 1847, he planted a quantity of seed, saved from the Carter potatoe. The product was a great variety of sorts and colors. Several of the most promising of these he planted in 1848. From these he selected three white varieties, so near alike as scarcely to be distinguished from each other, and planted them promiscuously. These he has continued to plant, the potatoes increasing in size each year. Some of them the past season, weighed over 2 lbs. They are hardy strong growers, productive, and of excellent quality—though not as early as the June, are much earlier than the Carter, and will crack open when boiled even before they are ripe, and retain their fine quality through the year. If they shall prove equal to this representation, hereafter, they will be a very

valuable acquisition to our varieties of the potato. Mr. B. has some of them for sale—price $2.50 per barrel, delivered at the depot. Address D. A. Bulkeley, Williamstown, Mass.

Ayrshire Cattle.—Mr. J. C. Tiffany, of Coxsackie, has lately purchased of E. P. Prentice, Esq., of Mount Hope, an Ayrshire cow, two yearling heifers, and a bull calf. They are all animals of superior excellence, and with the other stock of this breed which Mr. Tiffany has in his possession, will form a good breeding herd.

Mr. Prentice procured from Massachusetts, in November, some valuable Ayrshires; viz, from Mr. Benj. Shurtleff, of Chelsea, five cows, two yearling heifers, and a heifer calf, and from Mr. Peter Lawson, of Dracut, a yearling heifer and heifer calf. Those from Mr. Shurtleff were of the stock formerly owned by Capt. Randall, of New-Bedford, and one cow and several of her progeny, imported by Mr. S. Those from Mr. Lawson were from cows imported by him, the cows being in calf when imported. They are all good animals—some of them quite extra in points compared with the general standard for this valuable breed.

Address before the Penobscot Hort. Society.—This address, delivered by Col. Henry Little, of Bangor, shows much practical acquaintance with horticulture, and abounds with suggestions, which, if rightly heeded, must prove largely beneficial to those for whom they were intended. The state of Maine has much land that is well adapted to the production of apples, and it is well known that winter apples from that section are not surpassed in value by those of any part of the country, on account of their quality of long keeping. It is a subject of surprise, that the advantages of this state, in reference to this article, have not been more fully improved. Her "mission" is, clearly, the production of winter apples on a large scale, for exportation to other places less favored by nature for a profitable trade in this fruit. The truth is, it has been the custom—and the citizens of Maine, are in common with others, chargeable with the fault—to underrate the value of that region in respect to its agricultural and horticultural capabilities. It is gratifying to witness such effectual efforts as this of Col. Little's, to check this suicidal current of opinion. If the population of Maine will only direct their energies to the proper improvement of the resources of their own state, instead of carrying their capital to the "far west," they will find no cause to complain that they are not well rewarded.

Death of S. W. Cole, Esq.—We regret to learn that this gentleman,—long connected with the agricultural press, late editor of the *New-England Farmer*, author of a treatise on fruit trees, and another on the diseases of domestic animals,—died at his residence in Chelsea, Mass., on the 3d of December last. He had suffered long from a painful illness.

Subsoil Plowing.—The condition of the ground, as to moisture, greatly affects the results of this operation. If the subsoil is tenacious, it should be in so dry a state when the implement passess through it, that it will be pulverised, and left in a loose state; if it is worked when wet, the effect is only to pack the earth more closely together. The various opinions in regard to the utility of subsoil plowing, have arisen in a great measure from these circumstances. It should be remembered, moreover, that on tenacious soils, thorough drainage is essential to the development of the advantages of subsoiling.

Nature of Serpents.—A Boa Constrictor, in the Zoological Gardens at London, swallowed a woolen blanket on the 3d of October last, and disgorged it on the 8th of November. It was supposed by the keeper that the serpent wanted food, and a couple of rabbits were therefore put into his cage, but he swallowed the blanket instead of the rabbits.

Wire-worms.—In the *Working Farmer* for October, Prof. Mapes refers again to the subject of killing wire-worms with salt, and in reference to the experiment spoken of by us, sometime since, in which salt, at the rate of 40 bushels to the acre had no effect on the worms, he says—"If so the wire-worms are not so well behaved as with us, for the slightest application of salt kills them at once." The *New-England Farmer* of Oct. 25th, has an article which shows that the wire-worms of New-Hampshire are no better "behaved" than those on which we experimented. The writer says—"He has tried various experiments, such as putting a small quantity of salt in the hill and sowing it upon the surface, but without effect. Finally, he made a brine as strong as it could be made, and placed several wire worms in it, and let them remain three or four hours. Upon examination, they were found not only alive, but in excellent spirits. and not at all affected by the *pickle* they had been in."

Market Gardening about London.—J. Cuthill states in Hovey's Magazine, that the number of acres under cultivation to supply the various London Markets, is about 12,000 acres occupied by vegetables, and about 5,000 by fruit trees. Some 35,000 people are employed in their cultivation. Besides these, occasional supplies and sent by the more distant counties; and hundreds of acres in Cornwall and Devonshire are employed in growing early potatoes, broccoli, peas, &c. which reach London by rail.

A Domestic Picture.

The following lines, written by C. G. Eastman, editor of the Vermont Patriot, are "full of nature, truth, and tenderness:"

The Farmer sat in his easy chair,
Smoking his pipe of clay,
While his hale old wife, with busy care,
Was clearing the dinner away.
A sweet little girl, with fine blue eyes,
On her grandfather's knee was catching flies.

The old man laid his hand on her head,
With a tear on his wrinkled face;
He thought how often her mother dead
Had sat in the self-same place.
As the tear stole down from his half shut eye,
"Don't smoke," said the child, "how it makes you cry."

The house dog lay stretched out on the floor,
Where the shade after noon used to steal,
And the busy old wife, by the open door,
Was turning the spinning-wheel;
And the old brass clock on the mantle-tree,
Had plodded along to almost three.

Still the Farmer sat on his easy chair,
While close to his heaving breast,
The moistened brow and the cheek so fair
Of his sweet grandchild was pressed;
His head bent down on her soft hair lay,
Fast asleep were they both that summer day.

BUSINESS NOTICES.

To our Subscribers.

With this number we send you, agreeably to our promise, a copy of

The Pictorial Cultivator Almanac,

which has been got up at a heavy expense, expressly as a NEW YEAR'S PRESENT, to the subscribers of THE CULTIVATOR. If, in return, all who receive this number will use their influence to increase the list of our subscribers for the present year, they will confer a favor for which they will receive our hearty thanks.

Every Subscriber an Agent.

All our Subscribers, as well as all Postmasters, are especially invited to act as Agents for our publications, THE CULTIVATOR and THE HORTICULTURIST.

☞ Agents who compete for our Premiums, will aid us in keeping their accounts, if they will number their subscribers, 1, 2, 3, and upwards.

Remember the Terms to Clubs.

Seven Copies for $5.00—Fifteen Copies, and the Horticulturist, six months, to the Agent, for $10.00.

☞ In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office We will address them to as many different offices as may be necessary.

Premiums to Agents of the Cultivator.

As an inducement to those disposed to act as Agents, the following *Premiums* will be paid in CASH, SILVER PLATE, or AGRICULTURAL BOOKS and IMPLEMENTS, to those who send us the largest list of subscribers for THE CULTIVATOR for 1852, previous to the *tenth of April next.*

1. To the one sending us the largest number, with the pay in advance, at the club price of sixty-seven cents each, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest list, the sum of FORTY DOLLARS.
3. To the one sending us the next largest list, the sum of THIRTY-FIVE DOLLARS.
4. For the next largest list, the sum of THIRTY DOLLARS.
5. For the next largest list, the sum of TWENTY-FIVE DOLLARS.
6. For the next largest list, TWENTY DOLLARS.
7. For the next largest list, FIFTEEN DOLLARS.
8. For the next largest list, TEN DOLLARS.
9. For the next largest list, FIVE DOLLARS.
10. To all who send us Thirty Subscribers or over, and do not receive one of the above Prizes, a copy of THE HORTICULTURIST for one year.
11. To all who send us Fifteen Subscribers, and do not receive one of the above Premiums, THE HORTICULTURIST for six months.

Postage of the Cultivator.

We have been surprised to learn, by letters from different correspondents during the past month, that some Postmasters have charged three or four times as much as the legal postage on The Cultivator. We have heretofore published the decisions of several Postmaster Gerals, that the Cultivator was subject to *newspaper* postage only. We now give another decision to the same effect.

POST-OFFICE DEPARTMENT,
Appointment Office, Nov. 24, 1851.

SIR—I have received your letter of the 20th inst. The "Cultivator" is considered as being under the classification of a "newspaper," as that term is defined by the 16th section of the act of 3d March, 1845; and it therefore is entitled to all the benefits granted to, and subject to all the restrictions imposed by law on such publications.

Respectfully yours, S. D. JACOBS.
1st Assist P. M. Genl.

The postage on the Cultivator is therefore as follows:

For any distance not exceeding 50 miles, ...			5 cents	*per year.*	
Over 50, and not exceeding 300 miles,..... ..			10 cents	*per year.*	
Over 300	"	1,000 miles,.....	15	"	"
Over 1,000	"	2,000 miles,.....	20	"	"
Over 2,000	"	4,000 miles,.....	25	"	"
Over 4,000, ...			30	"	"

To prevent any misapprehension we quote the 16th section of the law of 3d March, 1845, referred to in the above letter. It is as follows:

SEC 16. And be it further enacted, that the term "Newspaper," hereinbefore used, shall be, and the same is hereby defined to be, any printed publication, issued in numbers, consisting of not more than two sheets, and published at short stated intervals of not more than one month, conveying intelligence of passing events, and *bona fide extras and supplements* of such publication."

By this extract it will be seen that the *Pictorial Cultivator Almanac* is entitled to go to our subscribers as a supplement to The Cultivator, it being a "*bona fide supplement*" to it, and nothing else. The Almanac is not published for sale, and is sent only to subscribers to the Cultivator.

Albany Prices Current.

ALBANY, Monday, Dec. 15, 1851.

The State canals have closed for the season. So suddenly was navigation suspended that a large amount of produce of all descriptions, but principally of flour, wheat and barley, is frozen in between Little Falls and Schenectady. The condition of the markets at New-York for flour and wheat is such as to require at that point more than an ordinary supply to prevent high prices. Our latest advices from New-York represent the market there for breadstuffs as laboring under much excitement, influenced by the early closing of the canal, the admitted light stock of flour (not exceeding 400,000 brls.,) and of wheat (not exceeding 170,000 bushels domestic,) the favorable advices from abroad and the good condition of the home markets. We cannot place the matter in a better light before our readers than the following quotations of the New-York market show:

	Nov. 28.	Dec. 12.
State, common brands,.....	3.87a94	4.37a
State, straight do	3.94a$4	4.37a4.44
State, favorite do	4.a$4.12	4.44a4.50
Mich., In., and Ohio, mixed,.....	4a406	4.44a
Michigan, fancy,.....	4.12a4.18	4.50a
Genesee, fancy,..... ..	4.25a4.50	4.62a4.75
Genesee, extra,.....	4.62a5.62	4.87a5.75
Canada, in bond,.....	4a4.12	4.18a4.25

The greater advance in the low grades is owing to that description being in lighter supply than the better descriptions. In regard to the European markets we have already advices of the closing of the Baltic, an early period, and the conceded fact by the English commercial press that from the Black Sea and America alone, can any supply be expected.

FLOUR.—The market here has fallen off to the demand for the home trade and eastern railway, to be somewhat increased this winter by the demand from the river towns on the line of the Hudson R. R. Qoutations are $4.25 for State, 4.25a4.37½ for Michigan, Indiana and Ohio, 4.50a4.62½ for fancy Genesee, $5 for extra Ohio and 4.75a5.37½ for extra Genesee.

GRAIN.—The stock of wheat here is light, and sales of Genesee are slowly made at 98a100c. for good to prime lots. At New-York, wheat has partaken of the upward tendency of flour, Genesee being held at 100a105c. The sales of Rye are confined to street transactions at 62½c. Oats in the street at 33a34c. Corn continues in demand for the East with sales 25,000 to 30,000 bushels at 59a60c. taken at the load. Barley, since the close of the Canal, is held firm and may be quoted at 77a80c.; the sales are limited. The stock here in store is estimated at 50,000 to 60,000 bushels.

PROVISIONS.—The transactions in barrelled meats include 150 bls. new mess pork at $15. A sale of 50 bls. beef Hams was made at $14.

In cut meats the sales are 107 brls. hams and 93 do. shoulders, Chicago packed, pt. The retail quotations are $14 for new prime pork, $15 for do. mess and $16 for do. clear Mess beef 9.50a$10. Beef hams 14a14.50. New smoked hams 10c. shoulders 8c. Lard 9a9½c. Butter 12a17c. for State dairies and Cheese 6a6½c. Dressed hogs have fallen off at the close; the sales of the week aggregate 3000 head, closing at $5⅞ for still fed and 6a6.12½ for fair to good lots.

WOOL.—Is in better demand at improving rates; a sale of 21,000 lbs. Michigan fleece was made on the 5th at 39½c.

During this week sales of 30.000 lbs. at 37½c. for mixed Michigan, 40c for common Ohio and the balance p.t.

At New-York the Reporter says the inquiry is light; sales of fleece during the week of 10,000 lbs. full blood Saxony at 42½c.; 4,000 lbs. do. do. at 47½c; 2,000 lbs. ¾ blood at 40c.; 5.000 lbs. common at 37½c.; 8,000 lbs. do. on private terms. In pulled the transactions have been limited. We quote sails of 7.000 lbs. and (country) at 37½c, 3.000 No. 1 do. at 32c. Report says sheep have advanced 100 per cent in Ohio, and that few will be slaughtered. This confirms our remarks in a previous number, and must cause a scarcity of pulled wools for the year and an increase in the clip of next year. In foreign wools the demand is small, and confined entirely to operations between small manufacturers and dealers. Under these circumstances stocks show no diminution. At Philadelphia there is a good demand from manufacturers, and a very firm market for this article. Further sales to the extent of 60a70,000 lbs. are reported, in lots, at 31a32c. for pulled, and 35a50c. for fleece, all on the usual terms.

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ILLUSTRATIONS.

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